THE UNIVERSITY OF MICHIGAN
JAN 21 1960
PERIODICAL READING ROOM

VOL. 10. No. 38 JANUARY 1960

THE PHILOSOPHICAL QUARTERLY

Edited by

A. D. WOOZLEY

Professor of Moral Philosophy in the University of St. Andrews

CONTENTS

I. Personal Predicates : *C. D. Rollins* 1

II. Philosophical Anthropology and the Problem of Meaning : *H. P. Rickman* 12

III. Miss Anscombe on the *Tractatus* : *R. Rhees* . . 21

IV. The Temporal Order : *D. S. Shwayder* 32

V. Nominalism, Empiricism, and Universals—II : *A. Pap* . 44

VI. Men and Robots : *A. R. Lacey* 61

VII. Discussions :
Presuppositions : *R. Hancock* 73

On the Breakdown of Moral Arguments : *R. Wasserstrom* 79

VIII. Critical Study :
Kant's Critique of Pure Reason. By T. D. Weldon (2nd edition) : *H. H. Cox* 82

IX. Book Reviews 86

Published by

THE UNIVERSITY OF ST. ANDREWS

for

THE SCOTS PHILOSOPHICAL CLUB

Price Seven Shillings and Sixpence

THE PHILOSOPHICAL QUARTERLY

The policy of this periodical is to publish work of a high academic standard from philosophers in any part of the world. The Editor will also be glad to receive notes on points of philosophical scholarship, and short discussions.

In the conduct of the magazine the Editor has the co-operation of its first editor, T. M. Knox, Principal of the University of St. Andrews; of the philosophy professors in Scotland (J. N. Wright and G. P. Henderson, St. Andrews; C. A. Campbell and W. G. Maclagan, Glasgow; R. C. Cross and D. M. MacKinnon, Aberdeen; W. H. F. Barnes, Edinburgh); and of J. Macmurray and of A. D. Ritchie, Emeriti Professors of Edinburgh.

The subscription price of the magazine is 25s. (in U.S.A. $4.00) post free. Single issues, including available back numbers, may be purchased at 7s 6d or $1.25 per copy. The subscription price is available only to subscribers who place their orders direct with the Treasurer, or with the Assistant Treasurer (Mr. V. C. Chappell, Dept. of Philosophy, University of Chicago, Chicago 37, Illinois) to whom all subscribers in U.S.A. are asked to pay their subscriptions. Orders placed through booksellers or agents will be charged to subscribers at the full rate of 30s. or $5.00 per annum. Subscribers in the United Kingdom are invited to adopt the convenient method of paying their subscriptions by Banker's Order. Cheques, drafts, etc., should be made payable to *The Philosophical Quarterly*. These, and communications relative to subscriptions, should be sent to the Treasurer.

MSS., books for review, and other editorial communications should be addressed to the Editor.

The postal address for communications is *The Philosophical Quarterly*, The University, St. Andrews, Scotland.

THE

PHILOSOPHICAL QUARTERLY

VOL. 10 No. 38 JANUARY 1960

PERSONAL PREDICATES

In a recent essay[1] Mr. P. F. Strawson discusses and rejects two theories of the self. One theory is Cartesian Dualism. I shall not be much concerned with what he says about this one. The other, a " no ownership " or " no subject " theory of which he finds traces in Wittgenstein and Schlick, he describes as the theory that experiences may be ascribed to a subject, if at all, only in the sense of being ascribed to a body. With this theory he deals at length, arguing that it is a distorted view of the conceptual scheme we actually have in use, and that it is incoherent or in a manner self-contradictory. I am interested here in his discussion of this second theory, and in an alternative which he offers as superior to it. The alternative is the view that the concept of a person is logically unique in the following sense : (*a*) a person's ascribing a psychological predicate to himself may often be on a logically-adequate basis which is wholly non-observational ; (*b*) his ascribing one to another person must be on the basis of observation which likewise in some cases must be logically-adequate for the ascription ; and yet (*c*) there are psychological predicates which are exactly the same predicates, with the same meaning, in the two kinds of case.

There are a great many things in Strawson's paper which seem to me to be excellent and which I shall not question. As to his own thesis about " the concept of a person ", however, I am much in doubt. For he appears to leave it at least as problematical as something which he rejects. I now wish to make plain why I think this is so, first by considering the intent or purpose behind the so-called " no-ownership " theory, second by examining

[1] " Persons " in *Minnesota Studies in the Philosophy of Science*, Vol. II, 1958, pp. 330-353.

Strawson's main criticism of that theory, and third by indicating what seems to be either a paradox or a begging of the question in his own thesis.

WITTGENSTEIN AND SCHLICK

Did Wittgenstein and Schlick hold the theory of no ownership—the theory (see pp. 334-335) that experiences may be ascribed to a subject, if at all, only in the sense of being ascribed to a body? Strawson believes that they may have done so (although he is hesitant, especially about Schlick). The evidence he offers (p. 341 n.) is that, according to Moore, Wittgenstein maintained in lectures that 'I' has two different uses in 'I have a toothache' and 'I have a bad tooth', and that in the former case 'I' does not denote a possessor or ego; and as for Schlick, that in part V of his essay "Meaning and Verification" he wrote, e.g.: "Thus we see that unless we choose to call our body the owner or bearer of the data [of immediate experience]—which seems a rather misleading expression—we have to say that the data *have no owner* or bearer".

I shall not deny that these references give *some* evidence of a no-ownership theory, or that such a theory can be constructed and then examined with profit. I raise a question of emphasis, however, concerning Wittgenstein and Schlick. The more clearly one recalls their background, and the concern of both writers to discredit solipsism and a notion of necessarily-private experience, the more one will be inclined to call Strawson's interpretation misleading and omissive. What Wittgenstein and Schlick were attacking was not what we succeed in saying in common usage, but a philosophical theory; and not, of course, any and every concept of a psychological subject as we might *now* speak of it, but instead a notion of a metaphysical subject, owner or possessor, a subject which was supposedly only self-available. However dated their language and however crude it now seems, we cannot suppose that Wittgenstein and Schlick failed to recognize that there are genuine psychological predicates even in self-ascription; and it is not as though Schlick, in speaking of the body, was literally identifying psychological predicates with corporeal ones, as Strawson's characterization might suggest.

I think that a more accurate description would be to say that Wittgenstein and Schlick were advancing a no-necessary-privacy theory. How different this theory is from the no-ownership theory that Strawson's criticisms the better fit will shortly emerge. I should not object to one's continuing to find some sort of no-ownership theory in these two writers, provided the predominance and the merits of the no-privacy theory are not overlooked. For this latter theory is a theory which not only seems to elude the force of Strawson's argument, but also helps to point out the respect in which Strawson's own thesis is puzzling.

In what follows I shall, for the sake of brevity, speak of the no-necessary-privacy theory as the NP-theory, and of another theory suggested by Strawson's criticisms as the NO-theory; although sometimes, in exposition, I

shall have to speak ambiguously of simply the N-theory, since Strawson has not drawn the distinction I have drawn. Usually, also, I shall speak merely of experiences where Strawson speaks of particular experiences or states of consciousness, of particular psychological predicates, etc.

STRAWSON'S CRITICISMS

Against what might best be called the N-theory, Strawson offers arguments which fall under two heads, lexical and theoretical. It is important to see exactly what they are and how they fare when applied against the NP-theory. For this purpose I shall list each of them, followed by comment.

Lexical argument 1 : In actual usage one *does* ascribe one's experiences to something, to a subject, and this kind of ascription is precisely what the theorist disallows and considers to be a confusion (p. 336).

Comment : If this argument tells against any theory, it tells against the NO-theory rather than the NP-theory. For the latter is not sceptical about a psychological subject, but hostile to what philosophers had tended to think of, metaphysically, as a subject.

Lexical argument 2 : The phrase ' in pain ' means the same in ' I am in pain ' as it does in ' He is in pain ' (pp. 336, 342, 338). Dictionaries do not give two senses (p. 338). There is not one primary process of learning the meaning of such an expression for an inner private meaning and a secondary process of learning to apply the predicate to others on the strength of behavioural correlates in one's own case—nor the other way round (p. 345).

Comment : This is intended to count against both Cartesianism and the N-theory, in favour of Strawson's own. But against the NP-theory it does very little by itself, since it does not analyze ' I am in pain ' and thus does not show us that the NP-theory fails where Strawson's succeeds. Indeed, as I think will become evident, Strawson's claims here can be taken as *confirming* the positions of Wittgenstein and Schlick, as well as not.

Theoretical argument 1 : The N-theory is internally incoherent. While it lays down the requirement that any genuine ownership of particular experiences be contingent and logically open to transfer (as it would be if they could be said to be owned by the body on which they are causally dependent), the theory at the same time requires a kind of ownership that is *not* contingent or logically open to transfer. For to state the theory is to say something like this : all *my* experiences are had (in the contingent way) by a certain body B. And the ineradicable concept ' my experiences ' can be understood only by resorting to an ego or subject enjoying ownership that is non-contingent and logically incapable of transfer. It cannot be taken as the very concept of experiences contingently dependent upon a certain body B ; this would make analytic the claim, ' All my experiences are owned by or dependent upon body B ' ; and ownership would then again become non-contingent. (Pp. 334-336.)

Comment : The argument is impressive but also it calls for some clarification. What (one might wonder) is at stake in the issue about the logical

status of ownership? Exactly how does that issue bear upon the notion of necessary privacy? If, as I have maintained, Schlick was propounding the NP-theory in part V of his essay, then why did he make so much of the contingency of any ownership worth the name? And can his position be maintained in the face of Strawson's argument?

It will be helpful to recall Schlick's context. There is no clear evidence that in *every* context, concerning ownership of anything at all, Schlick would have required contingency of ownership. He could very well have conceded, for example, that Smith's having such-and-such finger prints might be taken as logically necessary in police work, or that Mr. A's having such-and-such parents might be taken as non-contingent in certain legal contexts. Schlick was discussing solipsism and (though less clearly) the notion of immediate experience. As these had been formulated, they required a special kind of concept of logically " stuck " ownership—of particular experiences in a special, alleged sense of this phrase. And a permissible way of attacking these notions was Schlick's denying the *sort* of logically-stuck ownership that " particular experiences " were alleged to have.

It happens that Schlick himself, in urging the case for philosophical behaviourism, actually employed expressions like ' data ' and ' immediate experience '. And that he did so with a number of warnings did not prevent his appearing at times to rely upon them in a non-behavioural way. I do not maintain that his phrasing was always sufficiently careful. I do say, however, that he could permit himself the expression ' my experience ' in a non-behavioural way and permit himself the idiom of what we are tempted to call inalienably private twinges or tickles. He could, because he was not necessarily ruling out such idiom altogether. He was saying in effect that it is radically different and distinct from the idiom of observation. One way in which he could use the non-behavioural idiom is in a rhetorical device (not unlike the *reductio*) which shows the absurdities and paradoxes to come from confusing it with the behavioural. I confess I do not find Schlick unambiguous. But a writer may have Schlick's main purpose, and urge the NP-theory, and still say something like : ' My immediate experiences (if we are to use this irregular expression) can be owned only contingently '. Nor is it inconsistent for him to say more specifically, ' My twinge is only contingently mine '.

Strawson contends that the N-theorist cannot possibly state his theory without committing himself to the expression ' my experiences ' in the bogus sense in which mine are necessarily mine only. And since what would be necessarily only mine (sometimes called *particular* states) cannot strictly be said to be mine at all, he rejects the theory. But Strawson's argument, if applied not against the NO-theory but against the NP-one, has the following weaknesses : (*a*) it assumes that the NP-theorist does not allow ordinary non-behavioural or para-descriptive utterances at all ; (*b*) it overlooks the rhetorical procedure that an NP-theorist may use ; (*c*) it has not shown us something which according to the NP-theorist could not possibly be shown,

namely that the logical likeness of 'his experiences' to 'my experiences' (when they are indeed alike in meaning) requires that each have a non-observational aspect.

Actually the NP-theory rejects the philosophical notion of particular experiences; and it not uncommonly employs a rhetorical device which, if taken literally, gives the illusion of incoherence.

Theoretical argument 2: It is a necessary condition of one's ascribing experiences to oneself in the way one actually does, that one ascribe them (or be prepared to ascribe them) to others; and *vice versa* (pp. 337-338, 342, 347). The idea of a predicate, psychological or otherwise, is correlative with that of a range of distinguishable individuals of [any of] which the predicate can be affirmed significantly even if in given cases not truly (p. 338). And a necessary condition of experiences being ascribed at all is that they should be ascribed to the very same things as certain corporeal characteristics, certain physical situations, etc. (p. 340). Reckoning oneself as a subject of psychological predicates requires reckoning others as subjects of them; reckoning others so, requires that we be able to distinguish different subjects; and this in turn requires that the subjects be individuals of one and the same type and a unique type, such that to each may be ascribed *both* experiences and corporeal characteristics (p. 342). There is no sense in talking of identifiable individuals of a given type, namely such that they possess both M-predicates (corporeal ones) and P-predicates (all other predicates applied to persons, whether explicitly ascribing experiences or only implicitly doing so), unless there is some way of telling, with regard to any individual of that type, and any P-predicate, whether that individual possesses that P-predicate (p. 343). It has not sufficiently been seen that P-predicates could not have either aspect of their use (the self-ascriptive and the non-self-ascriptive) without having the other aspect (p. 347).

Comment: It is important to see that this sort of argument does not go against the NP-theory, but if anything confirms it. The difference between that theory and Strawson's own position will be the point at which any preference should be awarded. I therefore pass on to consider Strawson's theory, its differences from the NP-theory, and Strawson's reasons for offering it.

STRAWSON'S OWN THEORY

Both the NP-theory and Strawson's own take the ascription of particular experiences to another person as founded on observation, and in at least some cases founded adequately lest the observable should (*per impossibile*) be always a mere sign (see Strawson, pp. 338, 343-344, 353). But about ascription of an experience to oneself there is a radical difference. The NP-theory maintains that if I genuinely ascribe to myself an experience (for example, what we call "pain" or "depression"), then since I must be using the idiom that others also use of me, I too must mean (in a full sense of 'mean') what is observable. Thus either I have adequate *observable* grounds, or else there is the possibility of my ascription being mistaken—

or alternatively, I do not mean what *is* meant, and I am employing words only expressively so to speak, only suggestively or para-predicatively. Here the theory derives from two premises : one, that the same sort of meaning requires the same sort of basis, and two, that the observable and the non-observable would be different sorts of basis. Strawson's theory, on the other hand, is that in at least some cases self-ascription is different from other-ascription—that it is different not in the meaning of the predicate but in the respect that it is typically made on a non-observable basis which yet is wholly adequate for the same predicate (pp. 344-349, esp. 345 and 347).

Strawson rejects the principle that the same sort of meaning requires the same sort of basis. He says that we must think here in terms of a logically-unique type of predicate with two aspects, rather than of a single word or phrase having two kinds of occurrence one of which is genuinely predicative and one not. Thus where the NP-theory distinguishes self-ascription (genuine) and other-ascription both *within* the class of ascriptions whose logically-adequate basis is observable, Strawson prefers to draw this line of difference, at least for typical cases, exactly at the limit of the observable. He believes that we " must see every other [person] as a self-ascriber " (p. 346), by which he seems to mean, in part, seeing another person as having experiences which we *know* he can ascribe to himself on a non-observational basis.

It now remains to me to show wherein Strawson's theory is problematical. And this I shall do in two steps, first by showing how natural it is to regard his theory as paradoxical, and second by showing that Strawson's denial of paradox looks very *ad hoc* and very like a begging of the question.

First as to the stronger charge, of paradoxicality. If it were true, as Strawson maintains, that some psychological predicates (e.g., ' in pain ') are self-ascribed on an adequate basis which yet is non-observational, then how could anyone know that this happens in another's case ? How could *one*—how could *we*—even suppose this to happen or speak of its happening ? And what sense would there be in saying (p. 346) that " we must see every other as a self-ascriber " ? And on Strawson's principles, what sense would there then be in my regarding even myself as a self-ascriber ?

At this point I must guard against a misunderstanding. I am not for a moment denying that we can sometimes know Smith to be uttering ' I am in pain ' without observational basis. If we could never know this, we could not be said to know when he utters it *with* such a basis. What I am doubting, and what the NP-theory more than doubts, is not whether we can know Smith to be making such an utterance without observational basis, but whether we can know him to be making it on *another* basis that is non-observational and adequate. It is a question of knowing whether he has any basis at all in such a case—and this is *not* a question whether his basis is his pain (for this can be treated behaviourally). Philosophical behaviourism, we must note, makes little or no difference to our practices in personal utterances. Its claim is that, while it is often possible for us to know when Smith is correct or immune in such utterances, it is impossible in principle for us to know that he has a basis available to himself alone.

Strawson holds (see pp. 345, 347) that I cannot have the basis for saying 'Smith is in pain' that Smith often has in saying that he is. Between the two bases there would seem to be a crucial logical difference, or else there would be no need to speak of them as two and different. And if this is so, then it ought to be admitted, apparently, that here we have not one predicate in two aspects, but one *expression* with two types of employment, in the second case as a genuine predicate and in the first as a pseudo-predicate or para-predicate, an introspective-type expression whose occurrence as an expression we link up to the former only on observed grounds. If we are to speak (as Strawson does) of a non-observational basis, we must see the difficulty that arises. If indeed there are the two aspects, as Strawson describes them, then my knowledge that another person is employing the expression on the non-observational basis ought to be impossible. And how could either aspect or basis warrant the conceptually-guaranteed inference to the other? Do we have here a trace of the Cartesian dualism and of the Other Minds problem unexpunged, and a puzzle which the NP-theory is designed to avoid? It appears that Strawson adopts for cases of self-ascription something very like that notion of introspective basis which has been traditionally notorious. What else would logical adequacy amount to, in the self-ascriptive case as he describes it? Accordingly it would appear that Strawson on his own reasoning could claim no right to know that anyone else uses 'in pain' self-ascriptively on the sort of basis in question. And if this be so, then it would appear also, on Strawson's principles governing predicates, that no one can know that anyone else uses 'in pain' even on an observational basis. The NP-theory at least spares us such a paradox as this.

I have been arguing that, given his principles governing predicates, Strawson has not characterized the two "aspects" in such a way as clearly to avoid these paradoxes. Admittedly he is not unaware of the problem. And in considering further what he maintains, I shall be going on to consider whether he has avoided paradox by something better than begging the question.

Consider these three propositions:

(1) There are typically two sorts of basis for self-ascription and other-ascription respectively.

(2) Any genuine ascription must sometimes have logically-adequate basis in experience.

(3) If there are two kinds of ascription, they must be logically connected.

We may now say that at this point the issue concerns (1) and (3). Strawson maintains all three. The NP-theory accepts (2) and (3) but rejects (1). As a rhetorical device, however, the theorist tends to accept (1) provisionally and then offer the consequence that (3) cannot hold in that event. Hence the question: given (2) can both (1) and (3) be true?

Here Strawson emphasizes what he thinks is the logically-unique nature of the concept of a self or person. He believes that, given (1) and (2), there

are still connections of a conceptual sort that make (3) true. He considers, on pp. 346-347, the temptations we may feel to deny (3) if after accepting (1) we either take self-ascriptive uses as primary and then wonder about the possibility of other-ascriptive uses, or take other-ascriptive uses as self-sufficient and then raise a question about the possibility of self-ascription. Search this passage as I may, however, I find nothing over and above the arguments which I have already considered—nothing, that is to say, except what looks so much like a circularity that I should be unable to tell the difference. The salient facts are two : first, he continues to suggest that he identifies the conceptually-adequate basis typical of self-ascription with introspection or something like it ; and second, he does no more for the dubious logical connections he needs than to say, in effect, that we must have them.

As to the first fact. He writes (p. 347) : " If the logical gap exists [which may seem to open between the observable criteria and the state of depression itself], then depressed behaviour, however much there is of it, is no more than a sign of depression ". When we try to decide here whether he is evoking solipsistic phrasing simply for its consequences, or instead is actually tending toward it, we have nothing to go on except his distinction between the two kinds of ascription in terms of behaviour and non-behaviour, or between what is observable and what is not. And it is hard to see how the non-observable could be different in principle from the introspectable (i.e., the bogus).

As for the second fact. He writes (p. 347) of the supposed logical gap : " The sceptical position customarily represents the crossing of the logical gap as at best a shaky inference. But the point is that not even the syntax of the premises of the inference exists if the gap exists ". So far so good (except that the NP-theory is far less crude than scepticism and is not, of course, to be confused with it). Then he writes : " If . . . we take the other-ascriptive uses of these predicates as self-sufficient, we may come to think that all there is in the meaning of these predicates, as predicates, is the criteria on the strength of which we ascribe them to others. Does this not follow from the denial of the logical gap ? It does not follow. To think that it does is to forget the self-ascriptive uses of these predicates, to forget that we have to do with a class of predicates to the meaning of which it is essential that they should be both self-ascribable and other-ascribable to the same individuals. . . . It is not that the predicates have two kinds of meaning. Rather, it is essential to the kind of meaning they do have that both ways of ascribing them should be perfectly in order ". Here we are beckoned on to thin ice.

Presumably " meaning " is to be identified in terms of entailments. So presumably when Strawson speaks here of " the kind of meaning " these predicates have, as well as when he maintains that one and the same predicate may be ascribed on either of two quite different sorts of " logically adequate " bases, he is making the following claim : what Smith means in uttering

'I am in pain' when speaking (infallibly) on an alleged non-observational basis, may entail what Brown means in terms of observables by 'Smith is in pain', and *vice versa*. Now the NP-theory denies this claim. It says that neither could possibly be viewed as entailing the other; they are too different in kind for links of entailment. It recognizes, of course, that there is indeed a public logic of aches and pains—e.g., that when I say that I have a pain, and you say that I do not, normally we are contradicting each other; that if you say that I do, normally you mean what I mean and we agree; that I can *tell* you how I feel; and that I can lie. But, the theory maintains, these logical relations are not between *two* kinds of basis of which both are logically adequate, nor between two types of ascriptions made on such bases respectively. Rather they hold between statements having the same kind of basis and the same sort of check-up. Our delusion to the contrary arises (I suppose the theorist might say) from our confusing an expressive or suggestive role of a feeling-utterance, with that descriptive role which it suggests to other persons, or which it takes on in our common language. The thing about such an utterance which tempts us to talk of a logically-adequate non-observational basis, is a blend of several facts; e.g., that sometimes feeling-utterances are not descriptive at all; that usually, however, they have also a status as authorizers of third-person descriptions and thus lead dual roles (as it were) of which one is the public language and is, alone, a genuine propositional role; and that we seldom have occasion to distinguish clearly the non-descriptive from the descriptive role. But, the theorist will argue, we must accept some such distinction, and adhere to something like the verifiability principle, or else we get paradoxes like the notion of privileged access, the notion of entailments that cannot entail, the notion of statements which state nothing discoverable. Thus the NP-theory denies that an infallible feeling-utterance on an alleged private basis may entail, or be entailed by, a descriptive statement assertable by other persons.

What does Strawson offer against this denial? He offers nothing, I believe, except (1) usage which the NP-theorist can interpret in his own way, and (2) a thesis which we are left quite able to reject as *ad hoc*. Nothing at all, so far as I can see, obliges us to accept "the kind of meaning" Strawson thinks we must accept.

When he writes that to reject the sort of analysis he offers is to "refuse to accept the structure of the language in which we talk", I for one am left wondering what are his criteria for structure. Contrary to his suggestion, I do not find that I am both accepting the structure of our language and rejecting it. Nor, I think, is the NP-theory guilty of this vacillation.

If Strawson is to establish the *kind* of logical uniqueness that he claims for the concept of a person and for concepts like 'in pain', it would seem that he must do more than he has done. The NP-theory remains at least as plausible as Strawson's own. It is at least as free from paradox. It stresses the paradox in our speaking of a necessarily private aspect in addition to

an observable one (cf. Wittgenstein's *Tractatus* 5.62) ; it interprets the alleged private aspect as a special sort of occurrence of words, a kind that is expressive or at best quasi-predicative ; it stresses that if we nevertheless speak of a private aspect it cannot be linked to the observable by connections that in any clear sense are logical ; and it suggests that if instead of a private aspect we think of the expressive or suggestive occurrence of words, then we have something which can indeed be linked logically (at least inductively) with other-ascription, and something else (namely a real statement) which is deductively linked with ascriptions assertable by other persons. If Strawson is to show that there are already criteria on which *his* two aspects are linked in a logical way, then it is desirable that he say more about such criteria, and that he show crucial similarities to other things that we already agree to call logical connections. As the case stands, his present claim on behalf of a logical linkage would seem *ad hoc*. One might claim equally well that there really are sense-contents statements and that they have logical relations, of a unique sort, to object-statements, or something else of the sort. I suspect that it is rather too easy to speak of the " logic " of an expression, as though one were discovering entailment-relations where there are other sorts of relations instead. Philosophical behaviourism has raised the question whether there could possibly be certain entailment-relations. Strawson answers (as I understand him) that there are—because such is the " logic " of the expressions concerned. But once we accept the exact question which is raised, we *prevent* ourselves from taking Strawson's kind of answer as adequate.

It would be fairly natural to object as follows: " Surely even on the NP-theory I may think (as it were) of my own headache non-behaviouristically, and although others cannot do this and cannot even speak of what I thus think of, there may yet be *empirically* certain connections between what I think of and what others can indeed mean and speak of. Now if this is the case, then we may properly suppose that such empirical connections engender conceptual ones in the conventions we adopt. So presumably there are logical connections of the sort Strawson requires, after all. They arise in a manner no more mysterious than that in which other syntactical connections arise, namely by the conventions of the language we choose to use ". But against this I urge once more the point of the behaviourist theory, and ask whether we can legitimately adopt syntax (entailments) where according to the theory one of the two alleged things thus connected cannot possibly be spoken of in descriptive and testable terms, and cannot be conceived.

CONCLUSION

The no-necessary-privacy theory of Wittgenstein and Schlick does not deny that there are self-ascriptions and other-ascriptions which are indeed logically or conceptually related in accordance with the predicative principles Strawson has listed. Nor does it rule out that I may say or think ' I am in

pain ' without either grounds or inferable consequences in behaviour. What it does deny is that when I say this sentence in this latter way, I am thereby using ' in pain ' as a genuine predicate, i.e., as linked logically with what you are asserting in saying of me that I am in pain. It stresses a sharp difference here, what it considers to be a lack of *conceptual* continuity; although it certainly permits an inductive correlating of the expressive *utterance* of ' I am in pain ' with the genuine descriptive use of the same sentence. The theory is worth emphasis here because, while admittedly a different sort of theory is occasionally suggested by phrasing in Schlick and Wittgenstein, the present theory is the predominant one, it appears not to be deflated by Strawson's criticisms, and finally it points up a difficulty in the thesis Strawson offers on his own. It brings out the strangeness of saying, as Strawson does, that ' in pain ', in ' I am in pain ' and in ' He is in pain ', has the same meaning although different sorts of logically-adequate bases. It brings out the strangeness of saying that a non-observational basis and an observational basis may be logically-adequate in the two cases and yet be inferentially connected.

In what I have maintained, I may be very much mistaken. In a way it would be a relief to me should I find that I am. It may well be that I have misunderstood Strawson and that in his speaking of a logically-adequate non-observational basis he did not intend anything at all like introspection as philosophers in the past have supposed it to occur, but intended something utterly different. Yet I find this possibility difficult to allow for. He has said that one ascribes psychological predicates to others on the strength of observation of their behaviour, and that self-ascription can in an ideal case be on a non-observational basis. Now even if the logically-adequate basis for self-ascription is not *quite* like introspection, the problem still remains in its essentials. For how could the non-observable be linked logically to the observable ? How *can* we have a concept of a person such that there is a logical connection between what we learn of Smith by observation and what he can know of himself without such observation ? It is not enough to say that we do have such a concept. And part of the reason is that it is not enough to say that we have a concept of Smith's doing this sort of knowing. Where the credentials of both alleged concepts are in doubt, neither can help the other. And the question is not the permissiveness of various personal utterances, but how they shall be classified conceptually.

One last point. I have said that philosophical behaviourism (by which I mean a sophisticated theory and not a crude one) makes little or no difference to our practices in personal utterances. Rather, it counters another theory which is notoriously paradoxical. Now it is possible, one might think, that what Strawson means by a non-observational " basis " might itself be given behaviouristic credentials. In this case, my objections largely fail to hold. But in this case, also, it then becomes puzzling why Strawson should explicitly dissociate himself from anything like philosophical behaviourism.

C. D. Rollins

Oberlin College.

PHILOSOPHICAL ANTHROPOLOGY AND THE PROBLEM OF MEANING

The common human failing of taking oneself too seriously is apt to become dogmatism in the philosopher. Linguistic analysis, so dominant in Great Britain, has not escaped this temptation. In spite of its continuing retreat from exposed positions and a growing eclecticism, in spite, also, of its recoil from system building and its insistence on a journeyman's method of piecemeal treatment of problems, it exhibits the dogmatic conviction that it is in the possession of the best, if not the only, effective methods of philosophising. It discards radical philosophic alternatives out of hand as woolly metaphysics already discredited in the progress of philosophic analysis.

To combat not the methods of linguistic analysis as such but its dogmatic complacency I am presenting in this article a philosophic point of view which is an interpretation of German philosophic developments stemming from W. Dilthey. Following Professor Plessner I have called this approach philosophic anthropology. I hope to show that it can be developed systematically and applied fruitfully to the elucidation of philosophic problems. I shall first explain my approach and then illustrate it by a discussion of meaning. Finally I shall suggest briefly how the concepts thus gained may be used for a methodological approach to the human studies.

I

Philosophic anthropology is concerned with the whole range of philosophic problems but characterised as anthropology by its starting point, that is, the set of problems which it considers primary. As its point of departure it takes the situation in which the philosopher finds himself when he begins to philosophize. This is a complex state of affairs for he discovers himself in an environment, is affected by it, observes, feels, aspires and thinks in its context. Hence our primary philosophic question takes the form, 'What is it to be a man?'

As anyone commencing on his career as a philosopher finds himself precisely in this complex situation this starting point commends itself as a natural and proper one. Hence philosophic anthropology can claim a respectable philosophic ancestry which traces threads of anthropological thought through the whole history of philosophy. (Incidentally it is easy to show that linguistic analysts have also—in an absentminded fashion—interlaced their expositions with anthropological statements). From there philosophic anthropology proceeds to criticise the philosophic tradition by exhibiting the difficulties which have arisen for those who have failed to

embrace the full anthropological starting point. One may note, for instance, the struggle of Descartes and all philosophy which followed in his wake to bridge the gap between his selected starting point, namely the pure knowing subject, and everything that is also given in the primary human situation. This is not the place to attempt a review and revaluation of the history of philosophy ; it must suffice to show the possibility of such an enterprise from the point of view here presented.

Philosophic anthropology stands squarely in the philosophic tradition proclaiming itself, as it does, as a metaphysics, or, more precisely, as an ontology of the human situation. The very name I have chosen represents a methodological challenge to the widespread assumption that the ascertaining of facts and conceptual clarification can be clearly separated and the name philosophy reserved for the latter. Though there is a growing recognition among contemporary philosophers (I could quote Mr. Hampshire, Mr. Strawson, Mr. Baier, etc.), that our explanations must begin from the human situation which conditions our thought and language, the methodological implications of this insight have not been brought out as long as Professor Ryle is allowed to get away with the statement that " ontology is out ". (See *The Nature of Metaphysics*, ed. Pears).

Philosophic anthropology is an ontology insofar as it is concerned with providing a conceptual framework which is rooted in hard factuality, and thus exhibits its existential commitments.

Philosophic anthropology approaches any philosophic problem by a situational analysis. The primary analysis is, in consequence, concerned with the situation in which the thinker begins to philosophise. This situation is not a zero, or near zero situation, is not that of a clean slate waiting to be written on, not that of a recipient of sense data, nor that of a pure knowing subject. All these are artificial abstractions. The situation we start with is rather one of the greatest complexity. It is meaningful and structured, interpreted and understood in terms of a body of knowledge. These features set us our philosophic problems. Any radical scepticism as to that whole situation can, outside asylums, be only theoretical and precludes us from philosophising altogether. We can certainly experiment with methodical doubt, but whatever feature we exclude initially can only be reintroduced into our final philosophic position by a sleight of hand.

It is, then, operating within that complex situation that we achieve, by analysis and interpretation, a philosophic point of view. This point of view of necessity contains some hard factuality and yet partakes of the self-involvement which is the characteristic of all philosophy (that, for instance, we try to know the knower) and distinguishes it from science which depends on the investigator standing outside the circumscribed sphere which forms his subject matter.

We may now, in brief outline, attempt this analysis of the human situation :

(i) Man finds himself in an environment by which he is affected and which he affects in turn.

(ii) Being affected can be accompanied by awareness and also by feelings, moods, etc.

(iii) Man has needs and strives to satisfy them.

(iv) Man possesses what I propose to call the capacity for symbolic representation. In consequence he remembers the past, anticipates the future, envisages what is absent and develops signs and language to refer to his world. This in turn enables him to pattern his memories to make value-judgments on the basis of his feelings and to transform his aspirations into plans. The experience, finally, of the present as the product of the past and a step towards the future constitutes human life as not only temporal but historical in its nature.

Each of these four aspects represents an element of hard factuality which could be further developed and pursued in greater detail by recourse to the findings of biology, psychology and other disciplines concerned with the scientific study of man. Yet, in another sense, the very fact that each is only one aspect of the one complex situation shows them all inextricably steeped in prior interpretations. When we point to something as having affected us we have selected it in terms of our valuations and aspirations and, on the basis of our previous experience, grasped it by means of our conceptual equipment. When we then recognise that the disciplines, like psychology or biology, which we were prepared to use for confirmation of our basic findings are themselves based on acts of knowing springing from the basic situation which we are here trying to analyse, we see the epistemological circle closing. But if we are concerned with establishing the true nature of philosophy and not with the quixotic task of defending its scientific respectability, a better understanding of the nature of this circle may be found illuminating.

We become aware of the relative or " standpoint-bound " nature of all our knowledge. What we know is determined (or co-determined) by our mental, that is, our psychological and even physiological equipment. But that equipment is only known to us by whatever means of knowing we have. Into this circle a third element has to be inserted ; part of our mental equipment, the terms and concepts, for instance, which are available to us, specifically those explanatory concepts of psychology or philosophy which we wish to employ, are the products of a historical process ; they have been developed by us on the basis of experience and thought or handed down to us as a heritage of traditions.

Because the situation which we are trying to illuminate is not one objectively given to a detached observer—as the flower is to the botanist—but one within which we are trying to disentangle ourselves, its description is fraught with paradoxes. Man's physical set-up, (his senses, nerves, brain, etc.) his mental equipment (intelligence, span of attention, needs and interests) as well as the point of historical development at which he stands (his possession of science, the articulateness of his language) determine the

quality of his experience. There is a kind of hard, inescapable factuality about all this. Yet all I have said is already part of an interpretation of a world which always presents itself as already interpreted. And this interpretation is itself a historical product of human beings. These apparent contradictions do not cancel each other out and together present a significant statement from which definite conclusions can be drawn. Naive realism as well as any other dogmatic position is untenable. The recognition of the rôle of interpretation which, of course, is not merely a cognitive process but involves valuation and decision, opens for us the possibility of interpreting our experience afresh. Indeed we realise that the human situation necessarily demands interpretation. As interpretation in this sense is the creation of conceptual frameworks which involve existential commitments, we have regained a standpoint from which metaphysics can be seen as necessary and legitimate. If its goal cannot be absolute and ultimate truth it can yet achieve the growing self-awareness of man in his world.

II

The problem of meaning is central to philosophic anthropology. An attempt at its elucidation will therefore present further aspects of the philosophic position here adopted and illustrate its methods. Though concerned with exposition rather than with polemics my account incidentally throws down a gauntlet to linguistic analysis insofar as it is also largely concerned with meaning. First, linguistic analysts seem to me methodologically naive when they talk about ' experience ', ' use ', and more generally about what people do and the situations they find themselves in without becoming philosophically critical of this anthropological basis of their discussions. The anecdotal method so often adopted lacks philosophic rigour. Secondly, linguistic analysts appear to make the meaning of words or sentences the paradigm of all meaning. Presented, then, with such commonly used phrases as, ' What is the meaning of this historical event ? ', ' This means a lot to me ', ' His actions seemed quite meaningless ', ' I know what the grin on his face means ', linguistic analysts are driven to declare some of these nonsensical or at least derivative and doubtfully analogical. This simply slams the door on a number of important philosophical problems.

This second point leads me to a matter which I consider very important. The various social and cultural disciplines such as psychology, sociology, social anthropology, economics, jurisprudence, history and art-criticism involve the notion of meaning in the sense of the meaning of actions, institutions, events and situations. A philosophic approach which defines meaning too narrowly shackles rather than aids these disciplines. Linguistic analysis has, I believe, signally failed to offer fruitful methodological guidance to the human studies. Yet a philosophy can prove its value today by doing just that. It is the claim of philosophic anthropology that in its analysis of meaning it can lay the foundations of a philosophic framework from which the methodology of the studies concerned with man can be developed.

In line with the methodological programme already outlined I commence my analysis of meaning by returning to the situation in which the thinker finds himself. This situation, I suggest, is already experienced as meaningful.

It might be helpful to attach my analysis of how meaning is constituted to a concrete example. A friend enters my room holding a letter I have written to him. He tears it across and flings it on my desk.

This situation is meaningful to me and we must ask what is involved in its being so. I have a structured perceptual experience and recognise my friend, the letter, etc. I realise that his gesture expresses anger. I understand that my letter has interfered with his plans. I take it that he has come to have it out with me. I feel that this is a sad crisis in our friendship. If some aspect of the meaning of the situation eludes me I can, of course, take the obvious appropriate steps to remedy this. I can put on my spectacles, reflect on how the letter might have affected him, consult my feelings at the moment, etc.

The first point we should clear out of the way is the question of how far language enters the situation and contributes to the meaning. Whether a verbal communication formed part of the situation described or not does not seem to me to make a decisive difference. Understanding the sentence, ' I am very angry ', though more dependent on a framework of conventions, only reveals the same meaning as the interpretation of the gesture. On the other hand the fact that my awareness of the situation is accompanied throughout by conceptualisation in terms of language is more important. As we are committed to starting from the fullest complexity of a situation and not to seeking an artificially simplified starting point we must recognise that linguistic meaning is involved in our grasping a situation as meaningful. However similar in some respect my smelling a rose is to a dog's smelling a bone, it is also significantly different because I attach a name to my experience and thereby place it in the horizons of knowledge, memories, etc. Herein lies the plausibility of a linguistic starting point. Yet the question, ' What constitutes the meaning of this situation ? ' seems to me more fundamental than the question ' What constitutes the meaning of this sentence about this situation ? ' The very possibility of language rests on what I might call a sublinguistic grasping of meaning. (After all, the bone means something to the dog). To understand the meaning of a linguistic communication we need to understand not only the conventional meaning of the words but also what it is for something to be a sign, symbol or word, that is, something which means something. To suggest that this itself can be explained by language surely involves us in a vicious circle. (We can, for instance, only employ ostensive definitions if the meaning of the pointing finger is already understood).

I shall, therefore, account for meaning in terms of a number of specific relationships. The full meaning of the situation described has various aspects which represent the most important relationships through which meaning is constituted and these we shall try to analyse further. The different types

of relationships I shall call categories more or less in the Kantian sense. They are anthropologically rooted, that is, they arise from the human situation, both constituting meaning and making it possible to grasp. Without claiming completeness I shall list—in no particular order of preference—four of these categories. To go into the intricate relations of overlapping and interdependence of these categories would go beyond the scope of this article. I shall confine myself to the point that each of the categories is specially related to some aspects of situations and that only together do they constitute the full meaning of a situation.

The category of whole and part is rooted in the awareness that I am a unitary though complex being, that my spatial experience has the character of differentiated unity (or co-ordinated multiplicity) and that occurrences in time merge into a continuous life-history. The meaning of something is, according to this category, determined by the context in which it stands, its relation to a whole or system of which it is a part. The meaning of a whole is, in turn, constituted by its parts and the relations between them. This is a comprehensive category, for every perception is part of a perceptual field, every experience becomes part of my whole experience. Recognition of the familiar awareness of similarities and differences constitutes meaning in this way. Thus, seeing this man means something to me because I recognise him as my friend and the meaning of this friendship is constituted by all the events of seeing him, etc., which form the parts of this friendship. More specifically, I understand what the letter means to him in terms of a specific situation of which the letter is a part. Every event is meaningful to a person in terms of the way it fits into or modifies the pattern of his life and that pattern, we might call it the meaning of his life, is, in turn, constituted by the configuration of events.

As a second category I list power which represents the relationships of affecting and being affected. It is characteristic of the present approach to talk of power—as being more descriptive of human experience—rather than of causality. We experience power insofar as we are aware of ourselves as sources of change in situations and insofar as we experience being hindered or furthered and generally affected by something outside us. These relations of affecting and being affected obviously constitute meaning. The situation described meant something to me first of all because I was visually affected (as against the case when perfume means nothing to me because I have a cold) and secondly because it affected my life.

That this category interacts with the first to constitute meaning should be quite obvious. Something becomes part of my experience because it affects me and the relationships between parts and wholes are often dynamic, that is, of affecting and being affected as with the parts of a motor.

In listing as my third category the relationship between inner and outer I have to guard against misunderstanding. We are not, certainly not, concerned with an ordinary spatial relationship. The yolk in the shell or the ghost in the machine do not represent an inner-outer relation which

constitutes meaning. It is rather the relationship through which occurrences in space are symptomatic of mental—that is spatially not referable—phenomena. It represents the relation between an expression and what it expresses, between an act and the intention informing it. Such pairs are not Siamese twins and are therefore not reducible to one complex phenomenon. I can be angry and not show it. I can express anger without feeling it. But, insofar as I can relate a perceivable manifestation, a gesture, an action to a feeling, a thought, an intention, thus far do I grasp its meaning. In this sense the crumpling of the letter is meaningful to me as indicating anger.

This inner-outer category, like the previous ones, is rooted in the experience of the person. I am directly aware, in my own experience, of the link between being angry and clenching my fists and this forms the basis of my understanding what the clenching of fists may mean. To avoid misunderstanding I should stress that the demonstration of how this category is rooted in our experience does not represent a theory of privileged self-knowledge. Whether the subject can interpret the relation between inner and outer in a concrete instance more reliably in his own case than in that of another is an entirely different question.

Fourthly, meaning is constituted for us in terms of means and ends. This category is rooted in our experience of having needs and desires which we strive to satisfy. The objects of our strivings become meaningful to us as goals or ends and other things as means to their achievement. Thus, say " Fame means nothing to me " if I cannot conceive of it as a goal for which I might strive. What an action means is determined by the end it serves. An action which does not function to promote a significant goal is meaningless. If I realise that my friend's gesture does not serve a definite purpose, such as bringing our friendship to a close, I may say, ' Oh, it does not mean anything '.

Having briefly characterised four categories for the apprehension of meaning it may be illuminating to show how various ways of explaining the meaning of language are just instances of the application of these categories. I have already suggested that the categories overlap and, together, constitute meaning. Which of them is emphasised depends, therefore, on the kind of elucidation required. If we explain the meaning of words or sentences in terms of the contexts in which they stand, or by providing a wider context, we are using the category of part and whole. If we stress their function in discourse, their linguistic use, we are applying the category of means and ends. If we suggest that the meaning of linguistic units lies in their reference to experienceable situations we are bringing in the category of power. If, finally, we seek the meaning of signs or sounds in mental states or operations of which they are the expression we make use of the category of inner and outer. Hence we can see that linguistic meaning, far from being the paradigm of all meaning, becomes possible and comprehensible within a wider context of the appreciation of meaning in human life.

The theory of meaning presented here appears to me to have the addi-

tional advantage of eliminating a fundamental dualism between the sphere of meaning and the world of fact. Richards and Ogden in their *The Meaning of Meaning* were also concerned with this. But their positivistic bias led them to explain meaning in terms of causality and this seems to be to put the cart before the horse. As against this I suggest that we experience primarily meaningful relations which include our own awareness of exercising power. We then construe what affects and frustrates or furthers us in terms of such power. The concept of causality is abstracted from this. I am talking, of course, of epistemological priority, though it may also apply as a historical account of the origin of the notion of causality.

III

It is my contention that the anthropological conception of meaning can provide an epistemological framework for the studies concerned with man. I shall illustrate this by a brief consideration of the methodology of history.

As history is an ancient and well-established discipline it can, of course, not be the primary task of the philosopher to tell the historian what he should do. It is, rather, a matter of bringing to theoretical consciousness what the historian's work consists of. Incidentally the philosopher may also free the historian from the restraints of a fashionable theory which narrows his scope and remove from his path the puzzles which philosophers have created (for instance, the paradox that the subject matter of the historian, the past, does not exist). Finally, he may restrain the historian from taking metaphysical flight beyond his evidence.

The historian provides us with the meaning of historical events. He tells a meaningful story. If, intimidated by the charge of subjective interpretation, he sets down a jumble of discovered facts about the past, he fails to be a historian. If, on the other hand, he responds to the demand for meaning by attributing metaphysical significance—the working out of providence, the unfolding of the absolute spirit, etc.—to events, he also ceases to be a historian. Thus a narrow conception of meaning which makes no allowance for the meaning of historical events leaves no space between the chronicler and the metaphysician for the historian to stand on.

What we need to understand is the way in which the historian organises his facts, in an intellectually disciplined manner, into a meaningful account. As an illustration let us consider a historical fact. In 1517 Luther nailed his theses on to the door of the church of Wittenberg. What constitutes, for the historian, the meaning of this event and what lines does the research into this meaning take ?

To start with the historian will be aware that he is not dealing with a brute fact to be given meaning through the alchemy of historical reflection. We are dealing with a deliberate, thought-out act which was meaningful to Luther and the meaning of which was appreciated by his contemporaries. This meaning needs only to be rediscovered. It is seen partly in the action itself, just as any deliberate action, such as striking a match, reveals its

meaning. It is revealed partly in the content of the theses. To gain deeper insight into this kind of meaning the historian will consult such things as diaries, letters, or other writings of Luther and collect accounts of his conversations. In these he will discover the thoughts and intentions, the hopes and fears which informed the act under consideration. It is obviously the category of inner and outer which guides the historian here in his painstaking collection and organisation of evidence. Insofar as he is relating intentions to actions he is also using the category of means and ends.

From there the historian will be quite naturally drawn to explore—in conformity with the category of part and whole—the wider context of the act. Against what was the act directed? What tendencies of the age did it represent? To understand the meaning of the event more fully the historian has to relate it to the state of the Catholic church, the reform movements of the fifteenth century, the social conditions of Germany, etc.

But our event is meaningful in a third sense which is above all the reason why the historian would select it for consideration; it is pregnant with consequences. (If I nailed this article to the door of York Minster it would, though expressing my intentions, etc., "mean nothing"). When an act affects the historical course of events powerfully it reveals new facets of its meaning. Insofar as these consequences continue to reverberate through the ages history has to be rewritten in every generation so as to reflect the new perspectives gained on the meaning of past events. Here the historian is applying the category of power.

Thus we see how the anthropological categories are means of selecting and organising historical material. At the same time they also indicate where and to what extent the systematic knowledge of such disciplines as psychology, sociology, etc., becomes relevant. History is, in its essence, the account of particular and to some extent unique events and we cannot understand or represent it simply in terms of psychological, sociological or any other laws. On the other hand, when we apply the category of inner and outer, we have to bring to history some basic conceptions as to what man is, how he thinks and is motivated. Again, when we use the category of part and whole, sociological insights become relevant.

It would be possible to proceed with a demonstration of how, for instance, the subject of psychology itself, with its various fields and lines of approach could be methodologically unified in terms of the concept of meaning and its categories but this would go beyond the scope of the present article. The brief analysis of the historical approach should suffice as an illustration of method.

H. P. RICKMAN

The University, Hull.

MISS ANSCOMBE ON THE *TRACTATUS*

When students first read the *Tractatus* they are often impressed and feel that this is the sort of thing they had been hoping to find. But then, as often as not, they are baffled and feel they can make no headway. Miss Anscombe's book[1] is meant to help them to understand the most important topics. And if they can follow her in these, they will probably go on.

She says that most of what has been written about the *Tractatus* is wildly irrelevant. And probably she has often felt that she must make a point plain to those that have misunderstood it. She has had to take up a definite line of interpretation, and at certain points defend what she is doing. On the other hand, she has wanted to keep it a book for students and has felt that (as she puts it in one place) she must " slur over " some of the difficulties " for the purposes of a first rough exposition ". So that one is sometimes uncertain how to read it.

She seldom tries to paraphrase what Wittgenstein is saying. She wants to bring out what his questions were, and why he tries to answer them along the lines he does. She tries especially to show how his arguments have grown from the discussions of Russell and of Frege. These are often difficult, and if a student can follow her here, I wonder if he could not have followed more of her own criticisms. She wanted it to be a small book, and it would be hard to bring that in. She does mention some of the difficulties—the confusion between the meaning of a name and the bearer of a name, for instance. But she does not discuss the way in which this has influenced other things he says. If she had done that, she might have made plainer what Wittgenstein was trying to do.

She is best in what she says on special points or passages which have often been felt to be obscure. She has a particularly good account of Wittgenstein's treatment of " A believes that p ", for instance. But she is as good in what she says of sign and symbol, " expressions ", formal concepts and formal series, the general form of the proposition—and a number of other topics. My only question would be whether a student will see how her discussions of these different things hang together. He may wonder how they are related to any central theme. So that he still finds it hard to say what the *Tractatus* is really all about.

She makes " the picture theory of the proposition " central for at least the first half of her book. But she does not show clearly how this is related to what Wittgenstein called " the main point ", in his letter to Russell from which she quotes in her last chapter. And with her account of the " picture theory " I wonder if she could.

[1] *An Introduction to Wittgenstein's Tractatus.* By G. E. M. Anscombe. (London : Hutchinson. 1959. Pp. 179. Price 10s 6d).

Wittgenstein said in that letter that " my main contention, to which the whole business of logical propositions is only corollary . . . is the theory of what can be expressed (*gesagt*) by propositions—i.e. by language (and what comes to the same thing, what can be *thought*) ; and what cannot be expressed by propositions, but only shown (*gezeigt*) ; which I believe is the cardinal problem of philosophy. . . .". Everyone who reads the *Tractatus* knows that he does make this distinction. But why is it so important? In what way are the other discussions in the book only corollary to it? And why is it cardinal for logic ?

In *Tractatus* 5.555 he asks, " And anyway, how could I have been concerned in logic with forms that I can invent ? Surely I must be concerned with what it is that enables me to invent them ". One reason why he was worried by the plurality of logical constants in *Principia* was that this made the development of the logical system seem arbitrary. Which would mean that there were forms of inference without any clear or necessary relation to one another ; so that we might wonder at calling them all by the same name. If there were anything arbitrary about the introduction of a new form, then how could it be a *logical* form ? This kind of difficulty might lead one to doubt the reality of logic, as truly as the logical paradoxes could. And there could be no point in constructing a logical system until it was met.

What makes it possible to develop logical formulae is what he calls the general form of operation. (Cf., e.g., 5.503.) Or we could say that it is the general form of proposition. And what he says about propositions in the earlier sections is important just because it leads up to these. Miss Anscombe shows that we cannot understand the general form of operation, or the general form of proposition, unless we have grasped what he says about formal concepts and formal series. Her discussion of this is perhaps the best thing in her book. And in what he says about formal concepts he is giving one of the most important examples of the distinction between what can be said and what can be shown. It is clear that he thinks we cannot understand either the reality of propositions or their connexion with logic except in this way.

He wanted to meet the difficulties not only of the logical paradoxes, but of anything suggesting that logic may be arbitrary. Anything which throws in question the difference between what is logic and what is not ; anything which puts the *reality* of logic in question. Russell's theory of types was meant to meet doubts of this kind when they were born of the logical paradoxes. Wittgenstein did not think it could meet what he thought were the fundamental difficulties ; for various reasons. And he was still less satisfied by the later developments which have spoken of a hierarchy of languages or of " meta-languages ". These have mostly come since the *Tractatus*. But its distinction between what can be said and what can be shown is especially important for the kind of question they are discussing. For it is a rejection of any theory of " foundations for logic " on the lines which

certain writers have offered. Many of what Wittgenstein calls " formal concepts " are what some would now call " semantical concepts ". And we are told that one can " establish " these concepts, and establish, for instance, the relation of propositions to reality, in terms of a meta-language. I do not think these writers have tried to meet what Wittgenstein does say about formal concepts. And Miss Anscombe's discussion of them should make this clear.

(In a remark written considerably later than the *Tractatus* Wittgenstein said " No philosophical problem can be solved by a calculus ". He no longer spoke quite as he had in the *Tractatus*, but he always thought that " meta-languages " were an evasion. This was not because he did not feel that logic was important, but because he was convinced that it was.)

There are difficulties about saying what a proposition is ; and about any such statement as " p is a proposition ". (If that is always empty, then what do you mean by talking about propositions at all ?) There are difficulties for any account of what " expressing a proposition " is ; or in speaking of the relation of a sentence to what it says. Try explaining anything of the form " ' p ' says that p ", for instance—which Wittgenstein says is also the form of " A believes that p " or " A thinks p ". In fact, the relation of a proposition to what it says, is the same as the relation of thought to what it thinks of. What the proposition says, or what I understand, is " in " the proposition (even though in another sense it is independent of it), just as, when I think of this or that, it is in my thought. This is one reason for saying that a proposition is a picture of reality.

Wittgenstein's word for a picture—" Bild "—is connected with the verb " abbilden ". Miss Anscombe translates this by " depicts ", which is often misleading. And this may be one reason why she neglects what Wittgenstein calls the " inner " similarity between picture and pictured. But there is nothing in English which quite covers it. And perhaps we should keep to the verb " picture " and " picturing ", even if we have to use quotation marks. The idea of Abbildung came into logic from the mathematicians' practice of finding a model for one system in another : finding a model for a non-euclidean geometry in Euclid, for instance, or a model for geometry in the arithmetic of real numbers—which in German was called an Abbildung of the one system in the other. The method was used to show the consistency and validity of, say, Lobatchevsky's geometry. And I think Wittgenstein has it in mind when he speaks of the " Logik der Abbildung " (in 4.015, for instance) and even when he speaks of an " Abbildung der Wirklichkeit ". We have to translate this by " picturing of reality ", but we lose much of the connotation when we do ; and in particular we lose the reference to a rule.

If we left out the idea of a general rule in connexion with picturing (and I think Miss Anscombe neglects it), we should nearly miss the point of the analogy. Why should anyone speak of a " *logical* picture ", for instance ? And what has logical form got to do with picturing ? But what special

importance has logical form in connexion with *saying* anything, for that matter? When Wittgenstein says that propositions are pictures of reality, one thing he wants to bring out is the way in which logic is fundamental in connexion with them.

It is the fact that there is a general rule by which we can derive them from one another which constitutes the inner similarity of the score and the music and the gramophone record—for all that these seem about as diverse as any things could be. (4.0141). And he had just referred to this inner similarity when he said that the score and the music and the record "stand to one another in that picturing internal relation (in jener abbildenden internen Beziehung zu einander) which holds between language and the world". "That there is a general rule—this is what it consists in". This is what picturing consists in. So there must be a general rule of this sort whenever there is a proposition; whenever something is said.

At first sight the analogy sticks. The idea of a "rule of projection" by which you can produce the music from the score, and derive the score from the music, is intelligible enough. We could speak of the score as an "Abbildung" of the music. Or again, of one language as an Abbildung of another. But what does it mean to say that "language" is an Abbildung of *reality*? And what is "picturing reality" anyway?

When Wittgenstein says (4.01) "The proposition is a picture of reality", he adds: "The proposition is a model of reality as we think it to be". Now when we take one mathematical system as a model for another, we may examine the two systems independently. But not here; not when we are taking the proposition as a model of reality. It is easy to become confused about this, because the *Tractatus* does say, for instance, (4.05): "Reality is compared with the proposition". But this is when he is going on to discuss the difference between true and false propositions. And it is important not to confuse picturing reality with saying what is true. Not to confuse what we do when we want to decide whether a proposition is true or false, and what we do when we want to decide whether it has sense—i.e., whether it is a proposition at all. In the next sentence, after the one I just quoted, he says: "It is only because it is a picture of reality that a proposition can be true *or* false" (4.06, my italics). And one might almost want to ask: "Well, how do you know? How do you know there is any such picturing?"

You can understand a proposition—it is not just a jumble of words. But it is not just that the words have a definite arrangement, either. It is an arrangement which says something. And this difference, whatever it is, shows the proposition's relation to reality. What we start with is just the recognition that it does say something. We do not start by recognizing any correlation between it and something else. And this makes it rather like recognizing something as a picture (not just a jumble of marks). We may say that we understand a picture, when we do not know the scene from which it is taken. Think of a "still life", for instance; or a Dutch

interior. It is a picture of what is in it. And we may see this without noticing its similarity to anything outside it.

Sometimes that is what we do notice, of course ; it may be what interests us. I may be comparing a drawing of St. Paul's with the church itself as I am looking at it. But I should see what the picture is, and in an important sense I should see what it is a picture of, even if I were not standing here and even if I had never heard of St. Paul's. Only, then if you did ask me what it was a picture of, I should probably just point to the picture itself : " See, it's this building, with an entrance here, and a dome here, etc. ". And then what would it mean to speak of " the relation of the picture to what it pictures " ?

" Well, but we can *say* what is pictured. And, conversely, we can make a picture of what is said ". Does this amount to more than : We can say in one language what we can say also in another ? Wittgenstein would agree that this does show something about reality and about language too. It does show something about " saying something ", if we show that you can sometimes draw it. But then the point is that the picturing is something they *both* do. Neither gets you any nearer than the other to " what it really is ".

If I am performing an experiment I may write down a record or description of it as I go along. Could one say that my description is a copy of what I am describing ? It is the experiment—what is happening here on the bench—that guides me in what I write, anyway. Yet if we say in Wittgenstein's sense that my sentences picture reality, this does not mean simply that they are a true description of what is happening. Rather it is because they do picture reality that they can describe anything at all. It is because of their logical form, because they are propositions, because they say something. Now suppose someone says : " We could have made a film of the experiment, and this would have done as well. We could see in the film what happened ". Yes—if we can understand what we see. If you are a scientist yourself, then the film of the experiment may tell you as much as the scientist's own description. But as it stands, the film is extremely ambiguous—as the remark " We can see in the film what happens " brings out.

So in what sense does the film picture the facts or picture reality ? " It is a photographic record of whatever was visible at the time "—but this hardly helps. If we do not know what those happenings were doing there —what the point or the significance of this and that was—then we shall hardly know what sense to make of the film. This is not simply a matter of being able to recognize what the various things in the film stand for. It is a matter of being able to recognize what kind of picture it is or how it hangs together.

When I describe the experiment, I am not just trying to do in a sketchy way what the film does completely. A proposition pictures, not because the signs in it have these physical features, but because of what they do. And it is the same with the film.

Wittgenstein even said (3.1431) that objects in space like tables and chairs and books might be symbols : that we could imagine a propositional sign composed of these instead of written signs ; and their positions relative to one another would express the sense of the proposition. But here the point is that they do constitute a propositional sign. Each of them has a point which a written sign would have if we had been writing the proposition down. Their positions *vis-a-vis* one another have a point just as the order in which we write the signs has. Apart from this—apart from their recognizable roles in a propositional sign—they would not express anything at all.

It does not matter what we use as signs, if only we make clear the logical point of their combination. " What is essential in a proposition is whatever it has in common with all propositions that can express the same sense " (3.341). If we say that " The real name (der eigentliche Name) is that which all symbols which signify the same object have in common "—and Miss Anscombe shows the importance of this—we should also say that the real proposition is what is common to all the propositional signs which can express the same sense. And it is *this* which stands in the internal picturing relation with reality. This is why we may show something about reality if we show other ways of saying the same thing. For this brings out " what the symbols have in common ". This is one reason why logical analysis is important, also.

We must emphasize this. " What signifies, in any symbol, is what is common to all those symbols which, by the rules of logical syntax, may be substituted for it " (3.344). He goes on to say that what is common to all notations for truth functions is that they can be replaced by the notation of the Sheffer stroke. But the connexion between logical syntax and whatever is expressive in a proposition is important for all that we have been trying to say about picturing. We have spoken of recognizing it as a picture, or recognizing it as a proposition. Now suppose someone wondered whether there might be something arbitrary or personal in this. You just happen to find this group of signs intelligible—it says something to you—almost like a flower that arrests your attention ; and this need have nothing to do with recognizing any other propositions at other times. Could it be like that? Wittgenstein would have said it could not. That would not have been recognizing a proposition at all. And to say that understanding a proposition might be something arbitrary in that way, would be self contradictory.

You understand something that is said. It is possible to say something —i.e., there are expressions which picture reality. And a picturing of reality is possible because there is a general rule—a rule by which we distinguish between sense and nonsense.

There cannot be anything arbitrary in logic, because anything arbitrary would have to be *said* : and logic (the general rule) is what makes this possible.

Now part of the point here is that there must be logic if there are *empirical* propositions—propositions which we can understand without knowing whether they are true or false. Propositions which are either true or false, but whose truth or falsity depends on something external to them.

" If there would still be logic even if there were no world, then how could there be logic when there *is* a world ? " (5.5521). As though the relation of logic to the world were external, in some way ; so that what makes it *sensible* to talk of the possibility of anything's existing, would have nothing to do with logic. As though the truth or falsity of empirical statements, or the possibility of empirical statements at all, were something logic had nothing to do with. They would have to be " independent of logic ", then—and this is nonsense. (If only because you are using logical ideas when you call something independent of anything.) Miss Anscombe's elucidation of this is particularly helpful.

This is the importance of connecting logic with " saying something " altogether. And of insisting that it is the logic of the language we speak, and not of some artificial or ideal language. And incidentally it helps to explain the idea of " Sprachlogik " or " logic of language ".

A logic which was confined to formalized languages, for instance—or for which the distinction of true and false had sense only in formalized languages —would not be logic at all in the sense in which Wittgenstein is writing of it here. He used to say later that if there were a set of rules which we followed only in connexion with a particular game that we sometimes played, then we should hardly call them laws of thought—even if these were the only rules we had for " and " and " or " and " not " and " if . . . then ". We would call them laws of thought only if they went through the whole of our life.

We cannot deduce from anything *else* that they are applicable here. " One thing is clear : The laws of logic cannot themselves be subject to further logical laws " (6.123). Any such suggestion would show a misunderstanding of the kind of laws they are, and of their relation to the propositions of which they hold.

This question of the relation of logic and empirical propositions has always been one of " the cardinal problems of philosophy ". Most forms of scepticism have centred round it, for instance. But we cannot understand it unless we are clear about what can be said and what can only be shown. This is the point of the *Tractatus*.

There can be no *proving* that empirical propositions depend on logic—for what sort of " dependence " would that be ? Logic does not govern what can be said, in the sense of determining which of two contradictory propositions is to be asserted. " Nothing can happen contrary to the laws of logic " would be meaningless ; but so, of course, would " everything happens *according* to the laws of logic ".

We recognize the relation of logic to empirical propositions when we see these propositions as picturing. This picturing can be made clearer by logical analysis ; for in this we are bringing out what is common to all those propositions which express the same sense. We cannot *say* what is common to them. And what the logical analysis shows—is just what ordinary propositions show. Only it is made clearer.

The analysis is given in a symbolism which avoids ambiguities of logical syntax—a symbolism which makes clear the ways in which the different signs signify. This brings out the sense of the proposition, or the way in which it pictures. But the sense has to be expressed in terms of truth and falsity, and we have to speak of " picturing the existence and non-existence " of states of affairs. The logical constants make this possible, but they also make it easy to become mixed about the relation of a proposition to what it pictures.

The sense of a proposition must be independent of the facts. Yet we give the sense of a proposition when we give its " truth conditions "—the conditions under which we should call it true, and the conditions under which we should call it false. So it may look as though the sense of a proposition just *is* its relation to the facts.

That the sense must be independent of the facts is something Wittgenstein emphasizes, for instance at 4.061. And he says that if we overlook this we are likely to think of " true " and " false " as two different relations that a sign may have to what it signifies—so that " p " signifies truly what " ~p " signifies falsely. But we understand a proposition when we understand what it *says* ; and " signifies " is misleading. When I say " the iron is getting warmer ", this may be true or false, but these are not two different ways of *saying* it. If it is false, it says just what it would if it were true. Otherwise I should never know *what* was true or false.

Or again : If a proposition makes sense, it must make sense to contradict it. If I am saying anything when I say the iron is getting warmer, then you will be saying something if you say it is not. But then we should not be saying the same thing in different ways. You would be saying the *opposite* of what I said.

It is the same proposition whether it is true or false. But it is not the same proposition as its negative. And, *nota bene*, it is the same proposition if it has the same sense. You cannot say " If *it* had the opposite sense . . .".

When Wittgenstein says (4.061) " The propositions ' p ' and ' ~p ' have opposite senses, but it is one and the same reality that corresponds to them ", this means : one must have sense if the other does. And this is fundamental for the conception of " having sense " altogether. It is one reason why he says that tautology and contradiction are not pictures of reality (4.462). But he is not using " corresponds " in the way in which some people do when they speak of a true proposition as corresponding to the facts. What gives sense to " p " is also what gives sense to " ~p ". But what makes " p " true is not what makes " ~p " true.

And if p is true—the truth is not a relation between the facts and what it says. I say the iron is getting warmer. If this is true, then what it says *is* a fact ; not something else which corresponds to it.

I may say it when it is *not* a fact, of course. And this is the point of " the sense is independent of the facts ".

What is the point in talking about picturing, unless it is to emphasize

that you can say what is a fact and not something else which corresponds to it? The only " something else " is the propositional *sign*—not the sense. And the sign is not what is said—it is not what may be true or false—it is what " says ". It says what it does because it is the sign that it is. This is the " picture theory ". And if the sign is the same, then it says the same—true or false.

At the start of her account of " the picture theory " (p. 65) Miss Anscombe refers to Wittgenstein's remark : " The proposition *shows* its sense. The proposition *shows* what is the case *if* it is true. And it *says that* it is the case". And apparently this suggests to her that expressing a sense and saying it are different ; so that a proposition might show what is the case while saying that it is not. (Or, as she would put it, " show how things are while saying that they are not ".) But he says that a proposition shows its sense because, for instance, I can understand a sentence I have never heard before. I could not understand a *word* I had never met before, unless someone told me what it meant. But there is no " meaning of the sentence " which I have to learn before I can understand it. It is not that kind of understanding. But it would be part of the same point if you said that no one can explain to me what *saying* something is. " Saying " and " having sense " are the same. And there is no difference between understanding the sense of a propositional sign and understanding what it says.

It is in *saying* something that a proposition pictures reality. In certain circumstances I may also *use* a picture in what I am saying. But this is irrelevant to the idea of a proposition itself as a picture.

On page 67 Miss Anscombe says : " The picture theory of the proposition is that the proposition in the positive sense says : ' This is how things are ' and in the negative sense says : ' This is how things aren't '—the ' *this* ' in both cases being the same : the comparison is a comparison with a picture of the ' this ' in question ". But if the " this " is what the proposition says—and that is what it pictures—how can it be the same in both propositions? And can one speak of a proposition as saying anything *about* what it says? I should wonder then how it ever manages to say anything. What Miss Anscombe is calling a picture here seems more like a descriptive phrase, and not the proposition itself.

On page 70 she says that " it is a peculiarity of a picture of something's being the case that it can be taken as presenting us with something that is the case by being a *picture of what is not the case* " (italics in text). In a footnote she explains that " the problem is the ancient one of how a false proposition makes sense ", and she refers to *Philosophical Investigations*, par. 429, where Wittgenstein says : " The agreement, the harmony of thought and reality consists in this : if I say falsely that something is *red*, then, for all that, it is not *red* ". But she ought to have continued the quotation, which goes on : " And that if I want to tell someone what ' red ' means in the sentence ' That is not red ', I do it by pointing to something red ". This does not mean that when I say falsely that the iron is red, there is

any sort of agreement between what I say and the iron which is black; or that my false statement " presents us " with that.

She then refers to Wittgenstein's early view that a proposition may be symbolized as having two poles, " true " and " false ". If I give the circumstances in which I call a proposition true, and also the circumstances in which I call it false, I have determined its sense. Or, in other words, " the sense of the proposition is determined by the two poles, *true* and *false* ". And if we say that " names are like points, propositions like arrows—they have sense " (*Tractatus* 3.144), I suppose we might think of the F pole at the arrow's tail, and the T pole at its head. But there is nothing in this to suggest that a proposition may have either of two different *senses*; quite the contrary. Yet Miss Anscombe says (p. 71): " This rendering of the picture become proposition would stress the fact that it has acquired two ' poles ' or senses in which it can be thought ".

And on page 72 she has: " Every picture-proposition has two senses, in one of which it is a description of the existence, in the other of the non-existence, of a configuration of objects; and it is that by being a projection ". I think this should have shown her that there was something wrong. If that were Wittgenstein's view, he would be saying not only that a proposition has two senses, but that it has two *opposite* senses. And then it would be nothing you could believe or contradict or understand in any way at all.

If the sense is a configuration of objects, then it cannot be just the *spatial* configuration. It must have the complexity which we express with the logical constants. (Cf. 5.47: " Where there is complexity, there is argument and function, and with these are all the logical constants ".) This expression belongs to the picturing—to the kind of picture it is. And unless the picture is ambiguous, there are not two ways in which it can be taken.

Wittgenstein did hold that we may express the same proposition in an affirmative and in a negative way. Double negation shows this. We determine the sense of a proposition by giving both the conditions of its truth and the conditions of its falsity, and we can express the proposition by saying that it excludes the latter. We may call this taking the proposition in the negative sense. (And it is the same proposition, for " if p implies q and q implies p, p and q are the same proposition ".)

This is the point of the passage (4.463) which Miss Anscombe quotes on page 64: " The proposition, the picture, the model, are in a negative sense like a solid body that limits the freedom of movement of others; and in a positive sense like the space surrounded by a solid substance, in which a body is situated ". But she goes on to say: " Here at any rate a proposition, as well as a picture or a model, is conceived as *something that can have both a positive and a negative sense* " (my italics). And this is a misunderstanding, or at least misleading.

There are positive and negative ways of *expressing* the same proposition. But they do not express different *senses* of the same proposition, for that

means nothing. The double negation has the same sense as the proposition itself. On the other hand, the negative or contradictory of the proposition *does* have a different sense, and for this reason it is not a way of expressing the same proposition. (Unclarity here might make one mix up " affirmative or negative " with " true or false ".) But the *sense* is not negative in this case either. It is incompatible with what it contradicts ; that is all.

In 4.023 Wittgenstein says : " Die Wirklichkeit muss durch den Satz auf ja oder nein fixiert sein ". Miss Anscombe says (p. 17, footnote) she thinks " we can see Wittgenstein's hand in the free but excellent rendering " of this as : " The proposition determines reality to this extent, that one only needs to say ' yes ' or ' no ' to it to make it agree with reality ". But the passage goes on : " And so reality must be described completely by it ". And if the translation of the first sentence is right, what is the connexion ? Why the " And so " (" Dazu ") ? And why *completely* ?

Surely the point of the first sentence is what Wittgenstein puts when he speaks as though a proposition were dividing reality into the conditions of its truth and the conditions of its falsity ; " like a line ", as he said in a slightly different connexion, " which divides all points in a plane into right and left ".

In any case, you do not make it agree with reality by saying yes or no to it. If it agrees with reality at all, then it does not matter what you say.

I have been dwelling on a small part of what she says, because other things in her interpretation seem to turn on it. She is trying to guide us in accepting the picture theory for a time, so that we may follow the *Tractatus* more easily. And so she leaves the major difficulties, although she knows they are there. I cannot have said anything relevant that she has not recognized. But she thinks that this, with all its faults, is the view of the *Tractatus* ; and I do not read it so.

The notebooks show that in the three or four years before the *Tractatus* was finished, Wittgenstein was changing his idea of " picturing " in various ways, and that negative propositions gave him trouble. What he finally wrote in the *Tractatus* is in many things a long advance from those earlier remarks, even where they seem fairly similar. The conception of " sense " is more carefully worked out ; and so is the view of picturing in relation to logical form (including the general form of the proposition). Miss Anscombe has sometimes been guided by examples from the earlier notes, and has kept to features which, it seems to me, the *Tractatus* view excludes.

There are still difficulties in the view as he has it there, of course. " Elementary propositions " and " simple signs " cannot be made quite clear. And often when Miss Anscombe puzzles me, it is because she is trying to show how the " edifice " depends on them. Much of the trouble about negation comes in this way. Most often, though, I have been helped, not puzzled, in reading her.

R. RHEES

University of Wales.

THE TEMPORAL ORDER

1. Nothing has more baffled metaphysicians than the concept of time, and for reasons which are, in a general way, clear. Time is so inescapably party to almost all other ideas and such a constant companion of all our activities that it is difficult, almost to the point of complete frustration, to get under it and observe how it enters the logic of our lives. The attempt to disengage ourselves in order better to see what grips us often leads to nothing more than an absurd shake and a stutter into silence.

Twentieth century discussion of the so-called irreversibility of time is but the latest layer of confusion. One cannot read a moment of entropy, etc., without dissatisfaction. Beguiled by misplaced physical theory, one follows a path of obscurity knowing he is getting nowhere but not quite seeing why, for all is becoming ever more deeply hidden in unfortunate language. Let us then focus our attention on this question of the direction of time and consider why it cannot be reversed. In doing this we shall, I submit, turn up the logical roots from which Time in all its ramifications grows.

2. The moment we ask the question we discover that something is radically out of order. The expression ' direction of time ' is malformed; not only is its sense unclear, but it is not clear that it has a sense. We use ' direction ', at least in the first instance, to relate the various positions which a material object might occupy at different times. An object *moves* and in a direction, if it does or would occupy such and such positions at different times. Time itself does not move, and has no direction. Time is indeed a logical accessory of movement, and so of directed movement; we easily slip, as it seems, into attributing direction of time for much the same reason that a sense data devotee slips into making the perception the object of perception. We mutually predicate and conflate logical concomitants in both cases. Even less does it make sense to speak of the ' irreversibility of time '. Not time, but processes, may be irreversible. Yet, again, the description of a process demands temporal idioms, and we easily come to talk about time as a companion process; much as we talk about the perception as a companion object of perception.

That these are misconstructions of the logic of change seems to me obvious. But not much is done simply by pointing out that. We have said too little about the genesis of this nonsense. There remains, moreover, a rather more real problem after we strip away the metaphorical language of ' direction ', etc.

3. The problem, briefly stated, is this: Why do our descriptions of natural processes normally (not invariably) proceed from the past to the

present? More generally: Why do we order our descriptions of nature from earlier to later? I am not asking why the description has a temporal order; we may, at least for the moment, assume that it must. But why, when we describe a process, does the order of describing normally parallel the temporal order of the process? When we describe a room, or a face or almost anything but a process, it generally makes no difference whether we go from top to bottom, left to right. But when we describe a chemical process we must, within certain limits, start at the beginning. We could put a related question: Why is the temporal order of a process somehow internal to it?

The question is still not perfectly clear, being enveloped in temporal idioms. But it is perhaps clear enough to begin to answer.

4. The answer to *this* question, as already intimated, will certainly not be found in any remarkable fact of nature or by way of the philosophical application of recondite physical theory. I shall in this paper not review the arguments against that popular kind of account.

The proper approach to a satisfactory answer would, I believe, be along this route. First off it must be recognized that we are originally called upon to make temporal distinctions in the course of developing a capacity to deal linguistically with material objects, and here is the core of the concept of time. The examination of time is, putting it roughly, originally part of the philosophical investigation of the so-called material object language. More exactly: Time first enters our language in connection with our coming to learn to make and test statements of identity about material objects. Regarding it from the high vantage point of logical theory, we shall see that coming to learn to verify statements of identity about material objects in the most basic way—the way presumed by all other ways—is a matter of learning to show that an object which occupies (spatial) region R at time t is the same as the object which occupies region R' (possibly $= R$) at t' (where $t \neq t'$). Time is that by which we distinguish locations in space-time for the purpose of stating and establishing the identity and difference of material objects. For there to be a genuine question of identity or difference, the two determinations of the "time parameter" must differ.

The capacity to re-identify[1] material objects in this way once acquired, we can then ramify our language abilities in many directions. We can, for instance, come to learn to make and test statements of identity about material objects referred to otherwise than as occupying roughly determined regions of space at roughly determined times. Again, we can come to speak about objects which are *essentially* determined and not merely reidentified as at roughly determined times and places, e.g., events.

5. In this paper I shall to begin with confine myself to drawing an explanatory picture of what it is to have acquired the capacity to distinguish a

[1]The making of a statement of identity presumes two references to the object(s) in question, which references I shall sometimes call 'identifications'. An assertion of the statement of identity we may call a '*reidentification*', where, of course, this act of making or asserting the statement is to be contrasted with the act of *verifying* it.

temporal factor in our theoretical or linguistic dealings with material objects, which is to explain what is involved in making the simplest and logically most basic kind of statement of identity about material objects, or any other kind of thing for that matter. That this explanation should afford an answer to our question why the natural order for describing a process is from earlier to later, I ultimately shall simply assume that that order is essentially linear. The explanation for that fact is nonetheless quite easily found in the consideration that we locate material objects for purposes of identifying them in (roughly determined) *connected regions* of space at (perhaps isolated) *points* of time, this being a significant asymmetry between the spatial and temporal determinations of the locations of material things.

6. Let us then consider how one might come to learn to reidentify material objects. This will be logical pedagogics. *We*, who know the language of material objects, shall try to see what conditions must be fulfilled before we or anyone else can command that skill. We wish to know, that is, what is implied by our having this language. For this purpose, let us imagine how a child who has not yet learned the use of tenses might begin to have that use. We shall thus come to see what *our* concept of a material object and time involve. *We*, in conducting this examination, need not do without any language we can muster. But we must not allow our pupil to have anything he has not earned. In particular, we, who have the language of time, can assume that the language learner will behave in time before he has learned to speak in tenses. *We* can describe his actions and the process of learning in temporal terms. We are, in short, trying to understand what our concept of time is by looking to see what language skills must be acquired for one to have an approximate and much reduced equivalent.

7. Let us then take as our task the instruction of this child. We may assume that he has enough language to pick out particular material things which are within the range of his sight and feet, and attribute thereto certain simple characteristics. He does not have enough language to talk about objects not within his sight or reach, nor enough to say, ' This is the same as that '. The child is not so poorly equipped as it may seem. He has little less skill than do we for saying ' It is raining '. He can fasten his attention on a material thing and say certain things about it, e.g., that it is hard. He has at least the rudiments of our use of so-called common names. He can, moreover, *in practice* (what we should call) distinguish one material thing from another, not only in terms of characteristics such as hardness, but also in respect of their occupying different regions in his field of vision or action. We can even imagine that he has the beginning of the use of referring devices like ' this ' and ' that ', though it is not necessary that we give him so much language skill for present purposes. He has, moreover, having got this far, also begun to learn the language for learning language. We have at least taught him to respond to verbal correction of verbal errors, even if he has not yet learned to offer corrections on his own account.

Of all these capacities the most important for our purpose is his being

able to distinguish different material objects in his presence and attribute thereto different characteristics. His language practice is such that we can say that he has implicitly learned that no two objects occupy the same region and that no one object occupies a discontinuous region at one time ; though, of course, the child can in no wise be expected to be able to say such things, or know what they mean. He has the practical ability to locate objects in space ; he *knows how* to do it. He cannot say what it is he knows how to do for he does not yet have the language of same and different, one and two. He does have a practical grasp of the rudiments of the practice associated with the idea of difference, though he has nothing of ' the same '. Later, when he has that language, he will be able to *say* that two objects which he can distinguish as being at two different places are and must be different. But there is nothing he can now, at the beginning of the lesson, do which corresponds to his later being able to say that this is the same as that, unless possibly it be his (much, much later) ability to wield the logical formula 'A = A'. To appreciate how reduced his ability to make distinctions is, note that it is almost inconceivable that he should be wrong on matters of fact, supposing he has learned to do all but no more than we assume that he has learned.[2] He has not learned what it is to say that a statement is true or false. Or, to put it otherwise : *We* cannot be sure that his errors are errors of fact or of language.

We must assume further that the child can be described by us (but not by himself) as having what we call memory, though it need be only short order memory. Our criterion that he has memory is that, when put into certain situations, he should respond in various ways. Finally, we must assume that the child has learned to respond correctly to orders and requests, though he need not yet be able to give orders or make requests of his own.

8. We begin the lesson by requesting the child to bring the shoe, otherwise not identified, where what we want is the right shoe which is sitting on the table. The child knows how to distinguish shoes from other things, and both shoes are within his reach. So, being compliant, he brings the shoe —the left one. We say, ' No the other one ', a correction he cannot be expected to understand. But he will understand that he has made a mistake, yet with no idea what mistake—didn't he bring the shoe ? So, we take the child by the hand, lead him to the table, pick up the right shoe, hand it to him and return to where we were, at the same time pointing to the other shoe, indicating that that was not the one we wanted. We have both shoes before us, and we indicate ' not that one, but this one, which *is* the one which *was on* the table ' (to which we point). Now he has both shoes before his eyes, and is able to distinguish them, as indeed he might have already done when they were respectively on and under the table. The important point is that the shoe now in his hand is somehow or other associated with the one

[2]The one case I can think of where we might correct him, without challenging his language capacities, would be when two objects coalesce. But without the past tense, it is not clear that he could understand even that correction, for we would say that there are two objects only because they were *previously* apart.

which was on the table. We try to teach the child to make sense of what has happened by teaching him a new formula '. . . is . . . was . . .'. He is made to associate what he remembers was on the table with a job successfully done, and the verbal connection is the formula ' is . . . was '.

9. What have we done ? We have given the child occasion for reidentifying an object. We have done that by giving him a new way of distinguishing objects. And it is important that to do this we had to move about a bit. The left shoe he has before him cannot be distinguished in the old way from the shoe on the table, for there no longer is a shoe on the table. But he sees that something must be done, and with due encouragement he develops a new skill. He distinguishes the left shoe from the shoe which was on the table. But he does that by distinguishing the left shoe from the right shoe which he now holds in his hand. How does that come to count as distinguishing the left shoe from the right shoe which was on the table ? Because he now can make and recognize he has made a mistake where he previously could not have made a mistake. He learns to avoid the mistake by associating the right shoe, which he now holds in his hand, with the table, which he can look around and see, and to and from which he has just been. And the signal that he has done the job is the use of the formula ' is . . . was ': new words for new work.

We must be on guard not to muddle the child. We must make it quite clear to him that to distinguish the left shoe from the shoe that was on the table is not at all like distinguishing the left shoe from the right shoe in his hand. Of course, he *cannot* do the first job in the second way, which is an aid to learning. But we do not want to disrupt the child's tacit understanding that one object cannot occupy two regions. That is why we employ the new formula ' is . . . was '. He is taught that he cannot say of two objects open to view that one is the one which was the other. By applauding his successes and correcting his failures we bring the child to associate (what we call) two regions with (what we call) the same object ; we bring it about that he can do this only when the object cannot be seen to be occupying both regions ; and we equip him to do this new job by teaching him the formula ' is . . . was '. We have in short taught him a new use of language, one requiring words which can be employed successfully only on certain occasions ; and, it is important to note, we have taught him this new use of language in connection with (what we can call) a test.

To repeat then : We have taught a child new words in conjunction with teaching him a new practice, an example of which was fetching the shoe in the circumstances pictured. The procedure consists in moving an object from one place to another—something the child has been doing for a long time without knowing what it is he has been doing. We now, on didactic occasions, attach to the procedure sometimes plaudits and sometimes corrections, using the language of ' is . . . was '. The child can now learn to carry through with the procedure as (what we should call) a test. When correctly and successfully carried out the procedure counts as a *verification* of a statement of identity. The child learns the sense of the words employed in making such statements by being instructed how to verify such statements

(without of course yet having the slightest idea of what a statement is. Do we know what a statement is ?)

There are two points to observe : (1) The test requires the child to move the object, and the possibility of moving objects from one place to another will remain the primary criterion of identity for material things, much as calculating remains the primary test of identity for numbers. That being so, the object's having a spatial location at (what we can call) some past time is an essential condition, a " given ", for carrying out the test. (2) However, the test will be successful only if it leads to a certain result, and when the child learns to regard the procedure as a test, the result is always reached in the *present*. Although they always demand essential reference to some past location of an object, statements of identity are always verified in the present. This is an extremely important point, and we shall return to it again.

10. Notice how far the child has progressed, if he has really learned the proper use of ' is . . . was '. His previous capacity to distinguish objects could be thought of as skill in a kind of exiguous identification. But now he has something much more complete. He identifies the object as being at a certain place which he distinguishes from the place the object was. We might say that in learning to identify objects and reidentify them, he has learned to distinguish places.[3] Identifying which allows of reidentifying is quite different from the other more exiguous kind of identifying he could do before. Now the child can misidentify ; that is something entirely new. Presenting the object now identified as being in his hand gets an unwelcome response ; he makes a mistake about the object requested. This is the portico to truth-or-falsehood and to the possibility of our distinguishing his mistakes of language from mistakes of fact.

Finally notice what is pretty obvious if my imagined experiment reflects the logic of the matter : We teach one the reidentifying use of ' is ' while teaching him the use of ' was '. We cannot misidentify the object without locating it in time. The sense of ' is ' (' same ') and the sense of ' was ' are, at present junctures, indissoluble. The practical ability to use ' was ' correctly is just to be able to reidentify. Much as occupancy of space is the " Form " of difference, so time is the " Form " of reidentification.

11. At this point one might protest that I have not *proved* that we cannot have the past without particulars. I must agree, for I have no idea what form such a ' proof ' would take. But I remain convinced that our simplest temporal distinctions enter by way of our giving sense to the full question ' same or different ', and I have attempted to draw a convincing picture of how that is so by considering what one would need master in coming to learn to verify statements of the form ' A is the same (material object) as B '. My picture, if accurate, indicates that in learning to make and test such statements one must also begin to acquire that we associated with the simple past tense.

[3] It is interesting how he begins to attain to a *theoretical* knowledge of space by attaining a *practical* knowledge of time. This kind of progress is found everywhere throughout the logical build up of language. Thus one begins to attain a theoretical knowledge of counting by getting a practical knowledge of arithmetic.

It seems to me, then, that ' was ' or the equivalent is needed before one can make and test such statements. Is it *needed* at any lower level ? Could we not imagine another possible pedagogical example which would just as vividly picture the past without particulars ? Suppose, for instance, that our charge has advanced only to the place where he can make what Strawson has called " feature placing statements "[4], e.g., ' It is raining '. To succeed in such a use of language one need not yet have got the trick of picking out particulars to which he might then attribute various characteristics. His verbal response is, rather, to the total situation in which he finds himself, onto which situation he linguistically fastens a certain feature (where the situation is for him not yet what we would call a particular).

Why should we not be able to teach such a creature the past ? Imagine that our subject wakes to find the weather different from what he expected; seeing that he has difficulty in expressing what he finds, we teach him to say ' It *was* raining (but no longer is) '.

That sentence calls on the past tense of ' to be ' ; but have we taught the subject to make a statement (as we say) ' about the past ', even a feature placing statement about the past ? Does the child *need* the past to do the job ? No, at least not at first glance. As it seems to me ' It was raining ' should be described as a present-tense, negative, feature placing statement, all but equivalent to ' It is no longer raining ' ; something new and important has been added, but it is the negative, not the past.

Yet one might with some point argue : ' No longer ' presumes the past; that is, it would be incorrect for the child to say ' It is no longer raining ' if he wished simply to say ' It is not raining ', and for him to learn the correct use of ' no longer raining ' requires him to utter these words only in consideration of the *previous* state of the weather ; so, if the child is to learn the correct use of ' no longer raining ', he must not merely learn a word ' was ', but either must have already learned or presently be learning the *use* of the past tense.

Clearly, now, *we* need the past tense to describe the lesson ; but must the child also have acquired that use before he can be said to have learned the lesson ? To get the hang of it, need the child have anything but ordinary memory, which of course it is presumed he has if he is to learn the use of any word ? Well, perhaps : For now he needs to remember what happened on some *particular* occasion. The question now is whether having memory in that fuller sense is tantamount to his having the use of the past tense. I think not, because if he says ' It is no longer raining ', when it never was, though his use of the words is wrong, we should not say that he had made a *false statement* (nor a true one either). It is not as if he said something like ' Yesterday it was raining ' (when it was not).

The importance of this observation must be explained ; and in offering the explanation I may succeed in clarifying somewhat the chief point I am labouring to make.

To have the past tense implies the capacity to raise and settle questions

[4] " Particular and General ", *Aristotelian Society Proceedings*, 1954. Feature placing statements are not statements in the sense here assumed. I find no sense in *verifying* such a " statement ".

about what is not present ; and, as I have argued, the converse holds as well. (Here I am considering only material or material-like things.) Now, making statements about what is not present is what first occasions and gives sense to the question ' true or false ? ', for a misdecription of an object present and clearly on view, might always be described as a misuse of words. Now, for one to be able to make a statement which he understands could possibly be false implies that he has, in a practical sense, learned to make a test. The linkage of these ideas—absence, true-or-false and test—consists just in the fact that in learning to make a test (in the practical know-how sense) one must also learn that he must get into a test situation. So, one learns to test statements about what is not present by making them present. How now is he to get himself into a position to test a statement about an object given " in the past " ? Well, he fetches the object and sees how it is with it. But to test a statement about that object he must be sure it is that object. So, if my reasoning is right, to make any test about an object given " in the past ", he must be prepared to test identity. Making statements of identity involves having the use of the past tense, as I have argued ; and testing statements about objects given as past presumes the ability to establish identity. It is identity which brings the past into the present. That is what I have tried to bring out by way of my imaginary pedagogical exercise.

What now of ' No longer raining ' ? In learning to make that statement what new test is the child taught ? What sort of thing is it that he has learned or is presently learning to identify which is not present ? Hardly a past situation, for he has no idea at all what a situation is. The fact is that he is taught no test at all ; nor need he have previously been taught a test. No question of true-or-false can arise solely out of the skill he is pictured as acquiring. To be sure, he is taught to perform in the situation, and what he does may be either right or wrong—to behave in the prescribed manner he must follow a rule. If what he says is right, then he is not testing an object given " in the past ", but is merely reacting correctly to the present in a rule governed fashion and in a manner coloured by his exercise of memory. If what he says is wrong, then he has not made a false statement about something not present (whatever the test for such a statement might be), but is simply not using his words right. Of course his misuse of words may be of several kinds : perhaps he reacts to a dark day as if it were a storm, or perhaps he doesn't think that light rain is rain at all, or (much more interestingly) perhaps he wants to say ' No longer raining ' when in fact it was not raining on any recent occasion. Anyway, he is not making a statement true-or-false about what was, nor is he even being taught to make such a statement. But if he is neither making nor learning to make a past tense statement, then there is no reason to suppose that he must have acquired or be acquiring the past tense at this logical juncture. The past tense does of course figure, but only in *our* language. When *we* describe what it is for him to have learned to make a new kind of (present tense) feature placing statement, we must notice that he must remember something which previously occurred.

12. Supposing now that my analysis is correct, that to make past tense statements presumes the capacity to establish statements of identity about material objects and to make statements of identity requires the use of the past tense, let us return to our pupil.

The child has now taken his first step into " time ", and a very small one it is. He has not learned to assign dates and so is unprepared to regard the present as continuous with and comparable to the past.[5] He has no future—that is, no use or understanding of the future tense. Indeed, his use of 'was' cannot extend beyond his memory or even his immediate range of action. Nor has he yet learned to order different material objects with respect to a single, unified time. Time is for him not yet an *object* of discourse. Moreover, since he has as yet no way of alluding to more than one of what we should call ' past locations ' of the object, he still has no way of ordering things in time, as earlier or later. For, in reduced logical circumstances as he is, unable to call upon the present or the future, he would need to be able to refer to an object in two past locations before he could order temporally the progress of even a single object. Let us, then, taking care not to put too great a strain on the child's memory, try to see how he might come to make this one further step into time, giving him a first taste of earlier and later.

13. We must move an object several times, while giving the child the idea that it is the same object. The first step is to get him to stop and reidentify the object he has in his hand as the object which was on the table; at the second step, we get him to reidentify the object once more, but now given as the object he had previously reidentified. If he has learned the earlier lesson well, and knows how to reidentify objects as identified in many different ways, but always as at a place, he will not have much trouble with either of the tasks we have given him. Only at the second step he reidentifies the object as the one he was holding in his hand for purposes of reidentification. At the end of the whole process he says ' is . . . was ', and we hope he will say ' it was in the hand '. But if he can say that, he can remember that he previously said ' is . . . was '. But if he can remember that, his very words show that he can remember that the object was on the table. Yet, if he has learned earlier lessons well, he will know that he cannot say that the object was at two places at once ; yet the object was at the two places. So, we make clear to him that he has said ' is . . . was ' *twice*, and that that makes a difference. The last ' is . . . was ' aims at the first ' is . . . was '. But this does not solve the problem. Was the ' is . . . was ' he remembers having said the ' is . . . was ' he now says ? It cannot be, for now he sees that he cannot say this is the object which was on the table. Is the object, then, an altogether different one ? Has he simply said ' is . . . was ' twice with no connection between ? No ! For to say that this is the object which was in his hand, seems, in the situation we have described, to depend somehow upon his having been able to say that it was the object

[5] What *we* should call present and past. When he finally has these words as we use them he will long have had a practical competence with clocks. Learning to think of the present as a future " was " hangs upon his first getting a practical grasp on the future, and is the immediate product of learning to tell time.

which was on the table. We might shake the child into a solution by taking the object from the table to where we were, then back to the table. Now he can no longer say that the object was on the table, for it *is* on the table. Yet for him to say that it was the one he reidentified as being on the table demands that he be able to say that it was on the table.

As we previously helped the child out of a puzzle (a philosophical puzzle !) by teaching him the formula ' is . . . was ', so it is time to help him again by teaching him the use of such words as ' earlier ', ' later ' (' first ', 'last ', etc.). We use these words as we move the object.

' First it was here, then it was here, and now it is here '. In some such manner as this we might inculcate the language of ' earlier ' and ' later '. We teach him to say ' later ' by teaching him to reidentify twice. Subsequently, when he has the full language of time, he will continue to impose temporal order in conformity with the order of possible reidentifications of material objects. ' That is the comet which earlier was there and latter will be thar ', means that now we can identify the comet as previously identified as being there and tomorrow we shall identify it on the presumed identification of its today being thar.

14. For our purposes instruction may end here. Do let us be clear, though, that the child is still far from being a master of time and tense. He still has nothing of the future at his disposal, can give no dates and so is quite unable to bring the present into the stream of time. Nor does he have the idea of a temporal interval corresponding to his idea of a spatial region. That will come much later in his learning to use a clock to date present against past and so to measure the duration of processes. Only then will he begin to get the idea of a " point of time ", and so be able to think of all his previous " was " 's as having their ideal counterpart points. And only then will he be able to think of time as an object, as a universal principle of order.

The child does have a use of ' was ' which corresponds to part of our use of ' was ', and a use of ' earlier ' and ' later ' (if not just these words) which corresponds to part of our use of those terms. He has come to have these uses by learning to identify and reidentify material objects. We found the child able to do certain things and equipped with a certain amount of language ; but we had him do these things he could do in such a way as to transcend or come into conflict with his ability to use language. Everything was open to view and yet at the same time puzzling. The imagined puzzle was typically philosophical ; and to ease it we taught him some new language, making it very clear that this language was to be applied in just the situations he found puzzling.

15. One point I should like to emphasize is that the child can learn the language of the past only in the present. He learns to say ' was ' while doing a certain job. The rehearsal of the verification of the past-tense statement, by which process we give the word ' was ' its sense, takes place in the present. Final reidentification, thought of now, not as assertion, but as part of the process of verification, can never take place in the past. How then does the past enter ? *We* can say that reidentification requires prior identification.

So, we teach the child, not what a reidentification is, but *how* to reidentify; and we do that in connection with the formula ' is . . . was '. That is, we teach him how it *is* to *have* identified. It is essential, of course, that the child should have what we call ' memory ' if he is to master the technique of reidentifying.

16. *We*, who can use clocks and can talk about what will happen and can ask very general questions as ' Why does a description of a natural process go from earlier to later ? ', are now in position to answer that last question. If our imagined tutoring gives an accurate picture of that rudimentary part of time discussed above, then what we imagine the child to have mastered will determine him, when later in life he comes to describe what we call processes, to describe them from earlier to later, at least within certain limits to be noticed below.

I wish to use ' description ' in a somewhat narrower sense than is customary, allowing for the description of rooms, faces, scenes, battles and processes, but not for (e.g.) descriptions of the weather as cloudy or fair. A description in my narrower sense will always include a sequence of (verbal) identifications or references ; that is, in the course of giving the description, one must refer to a number of things, or to one thing a number of times. What is described in this way will always be one identifiable thing—the scene, face or process. But, as stated, in giving that description one must refer many times, not to that one thing, but to distinguishable elements of it. A description of a process, unlike the description of (say) a room or scene, will further require that one refer to at least some of these elements more than once. We might teach a child to describe a process by instructing him how to reidentify several times several objects as they move about, referring in turn to each of them at various stages in its history. Each reidentification of an object will require a previous identification or reference to that object. But the presence of reidentifications is not yet sufficient to determine a description as of a process. It is further required that these identifications will be of the objects at places and times, though additional specifications may occur as well. Let us now further confine our attention to descriptions of processes involving material objects exclusively.

17. From all this—that one is describing in the sense specified a process involving material objects exclusively—it is but a simple matter to draw forth an explanation of why it is that the temporal order of a description will, within limits, parallel the temporal order of the process described. I say " within limits " because the " natural order " of description may be altered by the presence of explicit indications or the operation of special conventions by virtue of which one can restore the natural order. For instance, one might rather clumsily say, ' The solution in which the blue precipitate formed *was*, before the addition of $Cu(NO_3)_2$, clear '. Here the explicit presence of ' was ' gives notice of a reversal of the natural order. Again : a military attaché might frame his descriptions of purloined secret processes in any order, but only if he and his communicant have agreed to a special convention. This qualification covers exceptional cases, and but serves to sharpen the question.

The solution depends on two facts. First, we can *re*identify only on the basis of a " given " identification. It must then be clear what that " given " identification is. It will, for this reason, in the normal case, precede the reidentification, though the presence of explicit indications or the operation of special conventions will allow a certain latitude. The second fact is that reidentification of a material object, as occupying a certain place at a certain time will, in point of logic, presume a " given " identification of the object as located at some place at an earlier time. That is the conclusion of No.9 above. Now a description of a process in the sense specified will imply statements of identity about and so reidentification of material objects at places and times. So : A reidentification of an object mentioned in a description of a process will, in the normal case, presume an earlier identification, which, since it is a material thing, locates it at some earlier time.

Just that is what needed explaining—that the order of identifications of the objects given in the description duplicates within limits the described temporal ordering of the positions of the objects identified.

18. The solution is at once simple and elusive, and it will pay to go over it once more, but now by considering how we should check the description against the facts.

If one understands the description of the process he must know how to check it ; and to know that he must know what it would be to verify the implied statements of identity. To carry out such a sequence of verifications, he would have to follow the process in time. At each stage, he checks that an object previously observed to occupy a certain region is now occupying a certain region. Only if the verification process is describable in that way, is he checking the description of a process, for a description of a process reidentifies objects as at places at particular times. Suppose now that he begins checking the description at some stage of the process ; a reference in the description locates an object as being at a certain place at a certain time ; but that object must be given as having previously been at a certain place. Otherwise he does not know whether it is the object intended that is present at the place under scrutiny. The only way he can know which object is intended is to identify it by where it was. There must, at that stage of the description, be some indication of the " given " identifications on the assumption of which each reidentification is made. Usually that will be achieved by placing the " given " identification first. So, the order of the process and the description will, in the normal case, run parallel. The reidentification in the description must, in line, reproduce the stages of the verification, which parallel the stages of the process, as indicated in the temporal specifications found in the references of the description. If we scramble the description—as is sometimes done—we must unscramble it before we can understand what is being described. We do not, in short, know what the process is without knowing its proper order, implying that it has a proper order. That is what I have tried to explain.

D. S. SHWAYDER

University of California.

NOMINALISM, EMPIRICISM AND UNIVERSALS—II

IV. Predication and Substrata

(*a*) *Atomic statements at epistemological rock bottom.*—Let us now shift our attention from second-level-predicates and attribute variables to the nominalist's favoured zero level of particulars. To begin with rhetorical questions : can we with good conscience point to atomic statements of subject-predicate form as the very paradigm of intelligible discourse more than two centuries after Berkeley's critique of the ' substratum ', Locke's " I know not what " which somehow supports the observed qualities ? And are not the designata of the individual constants ' a ', ' b ', ' c ', etc., over which the individual variables[10] range, just such unobservable substrata ?

Before we can find the answer to the latter question, we must be clear on the distinction, emphasized especially by Russell, between a ' logically proper ' name and a name which abbreviates a definite description. A logically proper name denotes a particular without *con*noting any properties ; hence, if ' a ' is a logically proper name and ' P ' a descriptive predicate, the atomic statement ' P(a) ' cannot be analytic. But all atomic statements are claimed to be contingent, hence non-analytic, by logical atomists. And this would not be the case if their subjects were referred to by definite descriptions, for surely in a statement of the form ' the x which has property P has property P ' the predicate is ' contained ' in the subject. It is true that even such singular statements are synthetic according to Russell's theory of descriptions, since the latter analyzes them as asserting the contingent existence of one and only one entity satisfying the description. As has, however, been urged by Strawson, myself[11] and others, such existential propositions are presupposed rather than asserted by one making the singular statement ; if they are false, the singular statement is not false but devoid of truth-value. Statements of the form ' the x which has property P has property P ' may, therefore, be classified as logically true in the sense that any statement of this form which has a truth-value at all is necessarily true. It follows that the individual constants, ' a ', ' b ', etc., in atomic statements are logically proper names in the explained sense. It is true

[10] I take it that logicians who speak of ' individuals ' as entities of lowest type in an absolute sense (not in the relative sense in which, for instance, integer variables may be called variables of lowest type in a system of number theory), mean by this word particulars as contrasted with universals and any kind of abstract entities. One confusing exception should be noted : Nelson Goodman distinguishes, in *The Structure of Appearance* (Cambridge 1951), individuals from particulars. According to his use of ' individual ' it is not contradictory to refer to qualities as individuals ; indeed, he constructs a realistic system whose basic ' individuals ' are qualia. But it seems to me that Goodman, without being sufficiently clear on this point, must be using ' individual ' in the system-relative sense noted above, i.e. qualia are the values of the lowest-type variables (which happen to be the only variables) in his realistic system.

[11] In " Logic, existence and the theory of descriptions ", *Analysis*, April, 1953.

that according to some logicians, Quine foremost, all names are eliminable from a nominalistic language by means of a simple device : let P be any property which uniquely characterizes a ; then ' a ' is to be replaced by the description ' (ιx)Px '. But whatever the merits of a nameless language may be from the point of view of formal logic, such an elimination of names involves logicians who accept the Russellian analysis of definite descriptions in the epistemological paradox that all sentences whatever express general propositions. For according to that analysis ' Q(ιx)Px ' means : (∃x)[(y)(Py ≡ (y = x)).Qx]. All empirical confirmation, then, becomes paradoxically a confirmation of one general proposition by other general propositions and there are no singular propositions whatever. Surely the entire theory of degrees of confirmation which Carnap builds on the basis of the old Wittgensteinian concept of logically independent atomic statements would collapse if all singular statements were thus eliminated from the nominalistic language. It must be assumed, therefore, that the individual constants occurring in the atomic statements of a Carnapian ' thing language ' are logically proper names in Russell's sense. But then they are really indexical signs, i.e. demonstratives like ' that thing ' whose referent cannot be specified in a *semantic* meta-language, a meta-language that does not mention pragmatic situations like a speaker producing tokens accompanied by pointing gestures. In other words : an individual constant ' a ' of a Carnapian thing-language is supposed to designate a fixed thing and what thing it designates is supposed to be determined by semantic rules that make no reference to the actual use of sign-tokens. But this conception is incompatible with the conception of the individual constants as logically proper names.[12]

This contradiction already indicates that the semantical (not syntactical) concept ' individual constant in thing-language L ' is just as problematic as the ontological concept of individual substances that are somehow compounds of substrata and qualities accidentally inhering in them (remember that every atomic statement is supposed to be contingent). Our suspicion that the individual constants of a thing-language are merely the linguistic counterparts of substrata is further supported by the following consideration. Any statement of the form ' a ≠ b ', where ' a ' and ' b ' are different individual constants of thing-language L, is supposed to be L-true. Assume that L is descriptively complete in the sense that for every simple quality in the universe of things there is a primitive predicate in L which designates it. Then form a conjunction of all mutually compatible statements about *a* that can be written in L by selecting from each family of primitive predicates (colour predicates, shape predicates, weight predicates, etc.) exactly one, as well as the corresponding conjunction of atomic statements about *b*. Thereby a complete qualitative characterization of two distinct things as being completely alike is formulated. According to the principle of the

[12]Russell was aware of this difficulty of formulating atomic propositions without using indexical signs. " The only words one does use as names in the logical sense are words like ' this ' or ' that ' ". (" The Philosophy of Logical Atomism ", reprinted in B. Russell, *Logic and Knowledge*, p. 201).

identity of indiscernibles the complete qualitative identity of *a* and *b* would seem to entail their numerical identity, whereas according to Carnap's rules for thing-languages state-descriptions that ascribe exactly the same primitive predicates to different things are logically consistent. This suggests that Carnap, like Wittgenstein in the *Tractatus*, does not regard Leibniz' principle as an analytic truth, which in turn suggests an obscure Aristotelian or ' commonsensical ' notion of numerical identity of individuals (cf. sec. (e)).

Carnap would, of course, make the usual reply that his method of handling individual constants is perfectly compatible with the analyticity of Leibniz' principle, in spite of the above counter-argument, since *a* and *b* must differ in their spatio-temporal positions and Leibniz' principle declares identity in *all* respects, including spatio-temporal properties, to be the logically necessary and sufficient condition of numerical identity. Indeed, his acceptance of physical space-time as the principle of individuation may be the chief reason for Carnap's preference for *co-ordinate languages*. Here the individuals are not things but space-time points. In such a language one does not say ' the thing at position (x, y, z, t) is red ' but more economically ' Red is at position (x, y, z, t) '. But, as Russell points out in *Human Knowledge* (p. 76), here substrata simply reappear in the form of space-time points or regions. If one space-time point can be distinguished from another only through a difference in the qualities, including values of physical magnitudes, that are at the two points (as Leibniz maintained in his defence of the relational conception of space and time), then Carnap is still at odds with Leibniz' principle if he regards it as logically possible that two space-time points (or regions) exhibit the same qualities and values of physical functors.

(*b*) *Russell* : *particulars are " bundles of qualities "*.—Motivated by the empiricist desire to avoid the postulation of unobservable entities, in particular of substrata, Russell has attempted[13] to sketch a realistic language whose descriptive vocabulary consists exclusively of names of universals; there are to be no names of particulars and predicates applicable to particulars in such a language. The question to be faced is whether the information normally conveyed by subject-predicate statements could, at least in principle, be expressed in such a language. The realistic transcript of a nominalistic statement of the form ' a is f ' will be a statement to the effect that the attribute f-ness is a member of a certain class of attributes which *is* the particular denoted by ' a '. The difficult problem, however, is the definition of the relevant classes of attributes. They cannot be defined by enumeration of their members ; for, apart from the consideration that only few of the attributes of a given particular are known at any given time, such extensional definitions would turn the realistic transcripts of subject-predicate statements into logically true or logically false statements. And instead of repeating Leibniz' truism that if we had a " perfect concept " of an individual substance, i.e. knew all its properties, we would see that it has what-

[13] *An Inquiry into Meaning and Truth* (London : Allen & Unwin. 1940), ch. 6; *Human Knowledge* (London : Allen & Unwin. 1948), parts II and IV.

ever properties it has, necessarily, not contingently, we had better stipulate : an analysis of subject-predicate statements in a realistic language is adequate only if it is compatible with the contingent, and hence synthetic, character of some such statements.

The realist, therefore, must construct an *intensional* definition of the sort of classes of attributes he wants to identify particulars with. It surely is not easy to specify a common and distinctive property of all the members of such a class of attributes without illicit mention of a particular in the definition (such as ' Socrates is the class of all the attributes *of Socrates* '). As a first approximation, the realist might define a particular as a class of attributes such that there is a place-time *at* which they all are[14] and at which there are no attributes that do not belong to that class. The latter qualification ensures that these attribute-classes include all the attributes of the particulars they represent (in the realist's constructional system). But, as already noted, the obscure and essentially metaphorical notion of " substrata " thus reappears in the form of space-time points (or regions). Undoubtedly, statements of the form ' quality Q is at position (x, y, z, t) ' are to be preferred to the corresponding statements of the thing-language of the form ' the thing at position (x, y, z, t) has Q ' if one follows the maxim, entailed by Occam's razor, " substrata are not to be multiplied beyond necessity " : why assume two substrata, the thing and the place-time occupied by the thing, if we can get along with the place-time alone ? (Parenthetically, I see no force in the argument that ' the thing which is now at this place is red ' is ordinary English, whereas ' redness is now at this place ' is extraordinary [" philosophical "] English. The superior *familiarity* of the subject-predicate sentences of the thing-language does not entail their superior *clarity*).

But, says Russell, let us try to do even without absolute place-times by exhibiting them as logical constructions out of empirically given qualities. Such reflections lead him to define the concept of a particular in terms of a relation of *compresence* between qualities which, on pain of circularity, cannot in turn be defined in terms of ' being at the same place-time ' : a particular is a complete group of compresent qualities, i.e. a group such that any two members of it are compresent and no quality which does not belong to the group is compresent with all the qualities that belong to the group. Although Russell does not explicitly describe the formal properties of this primitive in his realistic system of logical construction, it can be seen from the way he uses ' compresence ' that he means by it a symmetrical, reflexive, non-transitive, many-many relation. For example, the statement ' redness is compresent with roundness ' corresponds to the statement in the co-ordinate language ' there is a place-time at which both redness and roundness are ' (or, if there are no names of qualities, but only predicates, in the co-ordinate language, ' there is a place-time which is both red and round '). But there may also be a place-time at which redness is together with square-

[14] ' Q is at place-time x, t ' is short for ' Q is at place x at time t '.

ness. And since there cannot be a place-time at which roundness is together with squareness, it is clear that compresence cannot be intended by Russell as a transitive relation.[15] Further, Russell's definition of ' complete class of compresent qualities ' evidently presupposes that a quality not belonging to a given complete compresence class may be compresent with just some members of the class, since most qualities of a given particular occur in other particulars as well. Thus, let *a* be a thing which, among other qualities, is red and spherical, and *b* a thing which, among other qualities, is red and cubical. Cubicalness, then, is a quality not belonging to the complete compresence class corresponding to *a*, which is compresent with at least one quality of *a*, viz. redness. If compresence were transitive, then, of course, any quality which is compresent with some member of a class of compresent qualities would have to be compresent with *all* the members of the latter.

Strictly speaking, events (small chunks of space-time) and things, which in traditional metaphysics are both contrasted with universals because they are supposed to be unrepeatable particulars characterized by universals, are on different levels of a realistic system of logical construction such as the one sketched by Russell : events are classes of compresent qualities and things are classes of events. But since what is being investigated at present is the possibility of defining particulars in terms of universals without substrata, we may neglect this distinction in the present context. Likewise the distinction between phenomenal and physical events, to be considered later, may be ignored for the time being.

(c) *Are particulars, so defined, unrepeatable* ?—An explication of the concept of particularity which is to enable us to dispense with substrata ought to satisfy the following criteria of adequacy : (1) identity of indiscernibles, (2) spatial and temporal ordering relations should be irreflexive, i.e. a thing cannot be to the left of itself or above itself, etc., and an event cannot precede itself. Russell's explication obviously satisfies (1), since classes of qualities can be distinct only if there is at least one quality which belongs to one class and not to the other ; in the nominalistic idiom : x and y can be distinct particulars only if there is at least one predicate which applies to x and not to y. As regards (2), Russell underwent a curious change of mind. In his early paper " On the relations of universals and particulars "[16] he had argued that the terms of spatial and temporal ordering relations cannot be universals just because these relations are necessarily irreflexive. But all the members of a given complete compresence class, Russell tells us in *Human Knowledge*, may be found compresent again at a different place-time (i.e. at a different place at the same time, or at a different time at the same place, or at a different place at a different time). With reference to

[15] Goodman, who explains his primitive " concreting " relation *togetherness* more carefully than Russell, states explicitly that it is nontransitive : *The Structure of Appearance*, p. 160.

[16] *Proc. of the Aristotelian Soc.*, 12, 1911-12 ; reprinted in B. Russell, *Logic and Knowledge*, New York 1956.

mental particulars, viz. " total momentary experiences ", he says that it is a fortunate empirical fact that they can be used as terms of a temporal ordering relation because it is an *empirical* fact, if a fact at all, that a total momentary experience never recurs. That is, he regards it as *logically possible* that the same total momentary experience, construed as a complete group of compresent qualities, occur at different times. And he adds :

> " I regard it as a merit in the above theory that it gets rid of what would otherwise be synthetic *a priori* knowledge. That if A precedes B, B does not precede A, and that if A precedes B and B precedes C, then A precedes C, are synthetic propositions ; moreover, as we have just seen, they are not true if A and B and C are qualities. By making such statements (in so far as they are true) empirical generalisations, we overcome what would otherwise be a grave difficulty in the theory of knowledge ". (*op. cit.*, p. 198).

Presumably Russell would say, *mutatis mutandis*, the same with respect to spatial ordering relations. That aboveness, and to-the-leftness (from a given point of view) are asymmetrical and transitive relations, are likewise synthetic propositions in the sense that they are not formally deducible from logical truths. If we take qualities as constituting the field of these spatial relations, then they are obviously not asymmetrical : a colour may be to the left of itself or above itself. If we hold that where a colour appears simultaneously at different places there are numerically distinct, though possibly qualitatively identical, particulars (absolute places), and that it is they which are the terms of spatial ordering relations, then the latter's asymmetry is assured but only at the price of postulating unobservable substrata. Russell's own theory, as I understand it, is that the terms of spatial and temporal ordering relations are neither qualities nor postulated substrata, but logical constructions out of qualities, viz. complete compresence classes. Let us consider a phenomenal particular like a colour of absolutely specific hue, brightness and chroma at a specific place in a momentary visual field. Suppose further that the total momentary experience in question contains no other qualities, so that it is a complete compresence class. According to Russell, it is " so far as our experience goes " highly improbable that such a particular should repeat itself, yet this is on his theory a logical possibility.

Russell asserts, then, that it is on empirical grounds highly probable that his explication of particularity satisfies the second adequacy criterion but that it is not logically certain ; in other words, that according to his analysis of the terms of spatial and temporal ordering relations as complete compresence classes it is not *analytic* to say that these relations are irreflexive. But here Russell must have misunderstood his own theory. In fact, to assert the logical possibility of a complete compresence class being repeated is to suffer a relapse into the metaphysics of absolute, just numerically distinct places or times or place-times which was to be overcome. For consider what it could mean to say of a complete compresence class that it is

at a given place-time. As Russell himself notes (see *An Inquiry into Meaning and Truth*, p. 100), to assert the occurrence of a quality at a given place is to assert the existence of a complex of compresent qualities one of which is a spatial quality, like " centrality (in the visual field) " or " to-the-right-above (in the visual field) ". To make the description of the given " particular " still more complete one should also mention a temporal quality, something like " immediately after blue-round to the left below ". It follows that to say of a given *complete* compresence class that it is at a given place-time is to make a judgment of analysis : the spatial and temporal qualities contained in the class are isolated (abstracted) in the same way in which, focusing on the place-time quality, one might isolate the colour or shape or size. And since a complete compresence class cannot contain different place-time qualities, it is then *logically* impossible that it should repeat itself. In fact, once the conception of place-times as substrata *at* which qualities are is abandoned in favour of the conception of place-time qualities the irreflexivity of temporal precedence and spatial to-the-leftness, as relations between particulars, is seen to be an immediate consequence of the principle of the identity of indiscernibles (or difference of discernibles): suppose that x is left of y. Then x has a spatial quality, viz. being to the left of whatever is the centre of the space in question (central dividing line of the visual field, or origin of the co-ordinate system in the case of physical space), or being further left from the centre, or being closer right from the centre, which y lacks. Therefore x is distinct from y. Russell, it appears, is inconsistent in recommending his theory, on the one hand, as turning Leibniz' principle into an analytic truth and, on the other hand, as turning what threatened to be synthetic *a priori* propositions about space and time into empirical generalisations.[17] In order for a complete compresence class to precede itself or to be to the left of itself it would have to contain incompatible members of the category of place-time qualities.

(*d*) *Event-particulars defined as selectional classes of universals.*—The logical impossibility of such a state of affairs becomes immediately evident if we change Russell's constructional definition of ' particular ' as follows: a particular is a class of compresent qualities which includes from every category of qualities *one and only one* member. By ' category ' is meant such families of qualities as hues, brightnesses, chromas, shapes, sizes, pitches, loudnesses, degrees of hardness, etc. But it is essential to such a realistic construction of particulars that places and times be, as in Goodman's new *Aufbau* system, also treated as qualities. And in this connection a distinction

[17]While asymmetry entails irreflexivity, irreflexivity does not entail asymmetry. Therefore the fact that the relations in question are asymmetrical is still not a fact of logic even though their irreflexivity is logically provable on the basis of Russell's explication. The same holds for transitivity. I do not see, therefore, that his realistic constructions save the theory of knowledge from the admission of synthetic *a priori* knowledge. For example, the proposition that there are two colour-spot-moments (to use Goodman's terminology) A and B such that A contains the colour Blue and B the colour Red and A is left of B and B is left of A, is not *formally* contradictory, yet it is surely not a question of empirical fact whether it is, as we all believe it to be, false.

of different levels of particularity becomes inevitable. For suppose one objected that places cannot constitute a category in the sense of a family of *mutually incompatible* qualities, since a thing can have different places (at different times). This objection could readily be generalised so as to entail that there are no categories in the specified sense at all : a thing occupies different times just as it occupies, as a rule, different places, it can have different colours (both at the same time and successively), different shapes, etc. But a realistic construction of particulars along the indicated line must begin with phenomenal particulars which are static in the sense that they cannot significantly be said to change. Thus visual phenomenal particulars are " colour-spot-moments " (in Goodman's terminology) : the occurrence of a specific hue together with a specific chroma and brightness and with a place in the visual field and with a phenomenal time. Visual places constitute a category with respect to colour-spot-moments because by definition a colour-spot-moment contains only one spot ; for the analogous reason, phenomenal times constitute a category. Phenomenal particulars in other sense-domains are sounds, smells, pains, etc. As Goodman has pointed out, phenomenal time is a unique category in that it cuts across the various sense-domains. On the other hand, different kinds of phenomenal particulars contain different kinds of place qualities. One cannot ascribe a visual place to a sound, or a smell, any more than one can ascribe a place in " pain space " to a colour.[18] To be sure, smells and sounds are often *causally* located in physical space (' the sound comes from that bell '), but such causal location transcends phenomenological analysis.

The constructional step leading from phenomenal particulars to physical particulars is the co-ordination of visual and tactual qualities. When two of my finger tips touch each other, a visual coincidence is compresent with a tactual coincidence. Though it is undoubtedly this compresence of visual and tactual places which generates the notion of a *physical* place, it is not obvious how physical places could be *defined* on the basis of visual and tactual places and the relation of compresence. A phenomenalistic realist has to face here the vexing problem of defining the physical in terms of the phenomenal by means of dispositional, or counterfactual expressions because it is part of the meaning of ' physical ' that a physical object or event need not be actually experienced.[19] But I may be permitted to ignore this problem in the present context since my problem is only the constructional definition of ' particular ' in terms of ' category of qualities '. Let us assume, then, that the gulf between phenomenal places and times on the one hand, and physical places and times (or place-times) on the other hand, could be bridged by constructional definition. Then we could use the category of

[18]For a penetrating discussion of the relation of perceptual spaces to physical space, see M. Schlick, " On the relation between psychological and physical concepts ", esp. I and II (Feigl and Sellers, *Readings in Philosophical Analysis*).

[19]The phenomenalist's problem of defining physical places in terms of space perceptions is carefully discussed by H. H. Price in *Hume's Theory of the External World* (Oxford, 1940), and by A. J. Ayer in " Phenomenalism " (*Proc. of the Arist. Soc.*, 1947 ; reprinted in Ayer, *Philosophical Essays*, London 1953).

physical place-times as the " principle of individuation " for physical events: a physical event is defined as a class of compresent (physical) qualities including exactly one physical place-time. Clearly it is, according to this definition, logically impossible for the same physical event to occur at different times or at different places. But actually any other category that enters into the constructional definition of ' physical event ' would equally serve as " principle of individuation ". Suppose that the physical events consist in positions of (non-colliding) particles. Since by definition a given particle has one and only one mass (a particle which " changes " its mass as it approaches the speed of light is really a different particle—at least in the absence of other criteria of individual identity),[20] it is equally impossible for the same physical event to contain different masses. In other words, the kind of physical event in question is again a " selectional " class of compresent universals, consisting of exactly one mass value and exactly one quadruplet of space-time co-ordinates.

(*e*) *Substances, and the problem of individual identity.*—None of the kinds of particulars whose logical construction has been sketched so far has the attributes of Aristotelian substances, for a substance is something that may significantly be supposed to *change*. That is, we have considered only event-particulars. What justifies the subsumption of phenomenal events, like " colour-spot-moments ", and physical events, like particle-space-time-positions, under the same genus *events* is nothing else than the fact that a time category is involved in their constructional definition. It is nonsensical to speak of a changing colour-spot-moment and equally nonsensical to speak of a changing particle-space-time-position, because a difference in time entails, by definition, a difference in event. But now it turns out that substances are not particulars in the sense of our constructional definition at all. For, since a substance is supposed to be ***changeable*** in various respects, no categories are available for the constructional definition of ' substance '. Let us begin with the simplest kinds of substances, the classical physicists' (I mean to include relativistic physicists but not quantum physicists) particles. Since a particle may move, and often does move, physical place-time is ruled out as an individuating category. But mass is also ruled out as an individuating category since it is supposed to be a question of empirical fact whether the mass of a particle is constant. That is, if it is not self-contradictory to suppose that the mass of a particle changes, then the identity of a particle cannot be constituted by its mass. Certainly the assertion of relativity theory that the mass of a particle increases with velocity does not make sense if a particle is considered to be a " substance ". For, by virtue of which constant property is it still the same particle ? One might reply that at least an electron has a constant charge. But all electrons are postulated to have the same charge at all times. And since the elementary charge (e) is the only constant property of an electron, it follows that it is

[20] Cf. the following section.

impossible to identify an *individual* electron. If we invented proper names for electrons, it would simply be impossible to know which name denotes which electron. If so, there is no meaning in the conception of electrons as numerically distinct substances. It would be better to speak just of " electron events ", defined by the compresence of a specific charge and mass with a specific instantaneous velocity and space-time point.

Often an attempt is made to save the conception of particles as substances by pointing out that a particle, unlike a universal, cannot be in different places at the same time. Let us consider a particle that can move along the x-axis only. Then, according to this view, the following sets of place-times are categories, nameless though they happen to be in the word language, relative to such a particle : x_0t_0, x_1t_0, x_2t_0 . . . x_nt_0 ; x_0t_1, x_1t_1, . . . x_nt_1 ; . . . x_0t_m, x_1t_m . . . x_nt_m. However, a little analysis will reveal that a substantial particle, so defined, is a mathematical fiction, a " point particle ", not a physical particle like an atom or an electron. For, if by 'place' be meant a dimensionless point, then of course any physical particle occupies an infinity of places at the same time. And in order to save the postulate that a particle occupies no more than one place at a time, the " place " occupied by a particle at time t must be defined as the total volume taken up *by the particle* at t. But thus 'place' has been defined in terms of 'particle', hence it is circular to include in the definition of 'particle' the specification 'cannot occupy different places at the same time'.

It is equally impossible to regard the complex physical objects of everyday experience as particulars in the sense of selectional classes of compresent properties. For is there any category with respect to which a physical object cannot change ? According to our Aristotelian speech habits, a thing may change its colour, its size, its weight, its shape, its temperature, its smell—in short, there is no primitive predicate P, applicable to things, such that 'this thing is P at one time but not at another time' is a contradiction. Therefore the notion of an underlying substantial identity is obscure. According to the method of logical construction of particulars out of categories of universals, it must be possible to specify, for each kind of particulars, categories such that if x and y differ with respect to any of them, it follows that x and y are different particulars. But the attribute of changeability, which distinguishes substances from events, entails that no criterion of substantial identity can be formulated in this manner. An individual substance may be characterized by one member of a given category at one time and by another member of the same category at another time.

It may be objected that, if not primitive predicates, then at least complex natural-kind-predicates could serve the purpose. Is it not nonsense, for instance, to speak of one and the same thing being a dog at one time and a mouse at another time ? Yet, we do speak of the " metamorphosis " of a caterpillar into a butterfly, of a mass of steam into a block of ice, of a log into a heap of ashes, of a seed into a full-grown tree, etc. There simply is no sharp line between a change of an identical substance, in whatever respects,

and a more or less continuous sequence of events. Therefore " substantial particular " has no clear meaning. A realistic construction of particulars must restrict itself to event-particulars and represent the Aristotelian notion of a changing substance by the Whiteheadian notion of a (more or less) continuous sequence of events (which is symbolized in space-time geometry by " world lines ").

The unclear notion of substantial identity is also involved in the counterfactual mode of speech. We often ask what the succession of actual states of a thing x *would* have been if some initial state of x *had been* different from what it was in fact. Let us call a state or property of x such that it makes sense to suppose that x *might not* be in that state, or have that property, at some other time, or might not have been in that state at the very same time, a *contingent* state or property of x. The notion of substantial identity is, in this terminology, subject to the criticism that the demarcation of contingent from intrinsic (essential) properties of a thing is not dictated by ontological fact but is relative to descriptions. To say that P is a contingent property of x is to say that ' x is P ' is a contingent statement (i.e. neither analytic nor self-contradictory), yet whether or not it is a contingent statement depends on how x is described. Thus it is customary to regard spatial positions as contingent states of things, yet one might well describe a given thing so as to distinguish it from similar things by specifying its spatial position at a given time. In saying that the *same individual*, x, might not have occupied that space-time region, we have tacitly shifted to a different description of x which does not entail occupancy of that space-time region, say, a description in terms of shape and colour. But " common sense " is equally prepared to admit the possibility of the *same* thing changing its shape or colour. The question, therefore, is pressing what is conveyed by saying that the *same* thing might not have been in its actual state. We say ' John is tall ', but readily admit that he might not have been tall—just suppose that he had been severely undernourished. We take it to be a contingent fact that a person was born at the place and time at which he was born, and even that he has the parents which he has. That we do take it so, is indicated by counterfactual questions like ' what would he have become if he had been born and brought up in Russia ? ' or ' would he have turned into such a devout Christian if he had been a minister's son ? ' The suppositions made in such questions do not strike our Aristotelian common sense as self-contradictory, yet, if the name represented by ' he ' connoted a fixed set of characteristics some such counterfactual questions about the named person would have to be absurd. As C. D. Broad candidly put it: " I have sometimes caught myself wondering what I should have been like if my father had not married my mother but had married some other woman. But I always ended by thinking that the question was meaningless ".[21]

Broad is right in saying that space-time positions are usually contrasted, as *external circumstances*, with *dispositional* properties of a thing. But the

[21] C. D. Broad, " The ' Nature ' of a Continuant ", reprinted from *Examination of McTaggart's Philosophy*, Vol. I, in Feigl and Sellars, *Readings in Philosophical Analysis*.

notion of individual identity—which must be carefully distinguished from "specific" identity (identity of species, or kind)—does not become any clearer when it is said that an individual is the individual it is by virtue of its disposition. As Broad points out, changeable dispositions must be distinguished from dispositions which a thing cannot acquire or lose while remaining the same thing. Examples of changeable dispositions are elasticity, magnetism, electrical charge of a macroscopic object, acquired habits of behaviour, specific memory dispositions. There are objects which, in Aristotelian "proper" English, are said to have these dispositions at one time and not at another; accordingly it is held to make sense to suppose, with regard to any given object, that it *might not* have the disposition (if it has it) or *might* have it (if it does not have it). Clearly, no changeable disposition can be a criterion of individual identity. But neither can the permanent dispositions, like electrical charge considered as a permanent disposition of electrons, or mobility considered as a permanent disposition of Newtonian particles.[22] For they do not distinguish one member of the species characterized by a permanent disposition from any other. Perhaps the power to dissolve gold is a defining disposition of the kind *aqua regia*, in the sense that we would not call a liquid lacking that power 'aqua regia'. But since all individual samples of that kind have the disposition, it does not serve as a criterion for distinguishing one such sample from any other.

Undoubtedly a singular statement, ϕx, which specifies a natural or artificial *kind* (ϕ) to which x belongs, is not a contingent statement in the sense that it is conceivable that *the same x* might not have been ϕ (or might not be ϕ in future) though x happens to be ϕ. It does not make sense to suppose that a thing which is a piece of iron might not have been a piece of iron (or might cease to be a piece of iron in future), that a thing which is a dog might not have been a dog, that a typewriter might cease to be a typewriter (i.e. that the same thing which was a typewriter is not a typewriter henceforth), etc. But suppose we wish to identify, say, a *particular* dog by a set of predicates which differentiate it from any other dog. Let P_1, P_2 . . . P_n be such a set, and let 'Fido' be the name of the dog characterized by P_1, P_2 . . . P_n. Then the singular statements 'P_1 (Fido)', 'P_2 (Fido)', etc., should all be *analytically* true; in other words, it should be self-contradictory to suppose that Fido lacked any of them or that Fido, though having P_1 now, might not have P_1 in the future. Yet, no such predicate can with confidence be pronounced as applying *analytically* to Fido: Fido differs from other dogs in occupying a particular place-time, but he *might not* have occupied it; he differs from other dogs in having a certain specific weight now, yet it is likely to change, and even if we recorded all his weights for every day of his life, we would declare it logically possible that he might have had a different "weight history", etc., etc. The very fact, therefore, that we believe ourselves to be invariably making *synthetic* judgments when we ascribe a property to a thing that distinguishes it from other things

[22] It is curious that Locke contrasted primary qualities with "powers" (like solubility in *aqua regia*) though mobility is listed by him as a primary quality.

of the same kind, shows that we lack a clear notion of substantial thinghood.

I conclude that from the point of view of logical construction it is not just a matter of linguistic preference whether the particulars in the range of the " individual " variables are events or things. It is only events, not things, that are particulars in the clear sense expressed by a constructional definition that does not rely on " substrata " of any kind.

(*f*) *Are places and times universals* ?—The objection must now be faced that the translation of nominalistic subject-predicate statements into the realistic idiom can succeed only because by a dialectician's trick places and times have been transformed into universals—as in Goodman's construction of phenomenal concreta out of place- and time-qualia. The objection is, perhaps, that though ' is at place-time x, t ' is grammatically a predicate just like ' is red ', it is logically quite different because the latter has multiple applicability and the former has not. Let us first consider colour-spot-moments—an especially intuitive example of phenomenal event-particulars. It is true that we find this logical asymmetry : the same colour-spot can be at different times, the same colour-time can be at different spots, but the same spot-time cannot be at (more colloquially : with) different colours. Yet, if for this reason we deny the realist the right to treat place-time predicates as names of universals, we should take the same attitude towards any predicate which by its very meaning cannot apply to more than one particular —e.g., ' is the tallest man '. From this point of view, therefore, there is no justification for claiming that place-time predicates are logically unique in that they " individuate ". But, more important : those who object to place-time qualities object equally to place-qualities and to time-qualities. At least they wish to distinguish repeatable spatial and temporal relations from unrepeatable places and instants that are the terms of the relations. Yet, ' is at place P ' and ' is at time t ' are in the relevant respect on a par with ' is red ' : different colour-spot-moments may contain the same place and different colour-spot-moments may contain the same time. The analogous logical consideration holds, of course, for physical events.

In the realms of phenomenal particulars there is, however, a logical difference between spatial and temporal qualities on the one hand, and such qualities as hues, brightnesses, smells, pitches, on the other hand : the former are necessarily relational, the latter need not be. In the case of spatial qualities, we must use such expressions as ' above to the left ', ' slightly below at the outermost right edge of my visual field '. The point of reference is, of course, the centre of the momentary visual field. Temporal qualities are equally relational. Goodman writes that he does not find temporal qualia any more relational than colour qualia, and that he can distinguish by inspection two times just as he can distinguish by inspection two colours.[23] But if temporal qualia were intrinsically different from one another, like colours, we would probably have non-relational names for them just

[23] *The Structure of Appearance*, pp. 283-4, esp. the last sentence of footnote 1.

the way we have non-relational colour names. On the contrary, the only way a phenomenal time can be described is relationally : ' just before blue on the upper left far behind ', ' a long time after a sharp pain (in the amputated leg) ', etc. The phenomenal present, denoted by ' now ', is the point of reference for tensed predicates ;[24] the experienced present plays the same logical role with respect to such predicates as some central point in the visual field with respect to phenomenal spatial predicates. That is, ' a short while ago ' as used in the phenomenal language means ' a short while before now ', etc. For these reasons it is misleading to say that phenomenal places or times or both are, unlike physical places and times, *absolute*. Although we cannot describe phenomenal spatial and temporal qualities without using some egocentric particulars (' now ', ' here ', ' my '—as in ' at the left edge of *my* present visual field '), we use these words to form *relational* descriptions of phenomenal places and times. Similarly, being the father of B is a relational property of A though B is not a relation.

The distinction between relations and relational properties is of central importance for our problem. A relation is, of course, a universal if by a 'universal ' is meant something which it makes sense to suppose to be multiply instantiated. A relation R is instantiated by all the pairs (x_1y_1), (x_2y_2), . . . (x_ny_n) such that x_1 has R to y_1, x_2 has R to y_2, and so on (the pairs which are instances of R are ordered pairs if R is asymmetrical). A relational property is expressed, in the language of symbolic logic, by a monadic predicate which results from a dyadic predicate when one of the arguments of the latter is replaced by a constant. Thus, being father of John, is a relational property of Mr. X if Mr. X has the relation fatherhood to John. Now, suppose that R is a one-many relation, i.e. such that at most one entity can have R to a given entity, and let R's one-many character be an analytic fact about R. The arithmetical relation of immediate successorship is an example, likewise the social relation of legal fatherhood (not to be confused with biological fatherhood, which is one-many only on empirical grounds). And let us consider statements of the form " xRc " where c is a particular entity. Clearly, given that R is one-many, it is a contradiction to suppose that the propositional function xRc is satisfied by more than one entity. Therefore the relational property ascribed to an entity x by a statement of the form xRc is not a universal in the specified sense, although it is defined in terms of a universal, viz. the relation R.

Now, since phenomenal spaces and phenomenal time are non-metrical, phenomenal spatial and temporal relations are many-many. That is, it is possible that x is left of y and also left of z, and that x is left of y and also u is left of y, where x, y, z, u are distinct ; similarly, many different colours can be *before* many different colours, and so on. But when I locate a colour in my visual field by means of a description like ' on the upper right corner ', I ascribe to it a relational property involving an unrepeatable egocentric particular, viz. the centre of my momentary visual field. In the realistic

[24] For a careful analysis of tensed predicates as " token reflexive " expressions, see H. Reichenbach, *Elements of Symbolic Logic*, ch. VII.

idiom, the colour is described as one that is compresent with the relational property " to the upper right relative to the centre of this visual field ". Since *this* visual field is one that occurs *now*, and ' now ' indicates a different time each time it is pronounced, it is self-contradictory to suppose that *this* same visual field could be repeated—though it is logically possible that there should occur again in the same consciousness, or at the same physical time in another consciousness, a visual field with precisely the same qualitative content, including the same spatial relations. *Mutatis mutandis*, the same holds for times, treated as relational qualities. Suppose I wanted to describe the (phenomenal) time which a certain colour-spot occurs " together with ". I might begin by saying it occurs just after a certain other colour-spot to the lower left. But in order to make the description unique, the time of occurrence of the latter colour-spot must in turn be specified. And since what is in question is non-metrical phenomenal time, not metrical physical time, it is clear that eventually ' now ' must be introduced into the descriptions ; for, as pointed out above, ' now ' is involved in the analysis of tensed phenomenal predicates.

It follows that phenomenal places and times can indeed be construed as relational qualities, but since these relational qualities must be defined in terms of unrepeatable egocentric particulars, they are not universals after all. The realist who wishes to exhibit all supposed particulars as " syntheses of universals " finds his constructional endeavours frustrated by the necessity of supplementing characterization with indication, general predicates with individual constants that are " logically proper " names in Russell's sense, not abbreviated descriptions.

Spatial relations between bodies that are mathematically described by means of co-ordinates are one-one. The statement that a body B has at a given time co-ordinates (x, y, z) means that B's perpendicular distances, at that time, from the three axes which intersect at right angles at place 0 (the " origin " of the co-ordinate system) have the measureable values x, y and z. Clearly, if the description of B's location by means of co-ordinates is unique, as it is intended to be, then no other body can have the same metrical relations to O at the same time. The relativistic physicist who wishes to avoid the Newtonian conception of numerically distinct absolute places, interprets ascriptions of spatial, or spatio-temporal positions to bodies as ascriptions of relational properties. But this means that they have the logical form xRc, where c is the origin of a particular co-ordinate-system. Similarly, in specifying the physical time of an event, one ascribes to it a definite temporal distance from some conventionally chosen " zero event ", like the birth of Christ. Again, then, places and times are revealed as relational properties which are not universals ; for if R is one-many and c is a unique particular, then no more than one entity can satisfy the propositional function xRc.

The realist may reply that the origin of a co-ordinate system, whether spatial or temporal, must itself be *described* ; so that ' c ' is not really a

logically proper name but a description which cannot, in the present context of discussion, be assumed to be necessarily unique without begging the question. Yet, on pain of infinite regress, the eventual recourse to egocentric particulars is unavoidable. If, following Carnap, we distinguish the theoretical language of physics from the observation language,[25] we may concede that no logically proper names occur in the theoretical language ; the latter's descriptive vocabulary comprises only general predicates, functors, and numerals expressing space-time positions or values of physical magnitudes. But obviously no statement identifying the place-time of an event has any verifiable meaning unless the vocabulary of the observation language is used to interpret the zero-positions. And though such names as ' Greenwich ' and ' Jesus Christ ' can be understood by people who are not " acquainted " with what they denote, this is only because they are connected by longer or shorter chains of descriptions with an egocentric particular. Consider the meaning of a temporal description like ' 4 p.m. Eastern daylight time, June 14 1957 '. What it describes is a numerically definite time lapse since the birth of Jesus Christ. But what is meant by ' Jesus Christ ' in this context ? On pain of circular description, we cannot define this name as ' that person, alleged to be divine by the Church, that assumed human flesh and blood in a stable in Bethlehem (Palestine) at exactly 0 time '. Must we, then, define him by some of his non-temporal properties as related in the bible ? But surely a person who has never read the bible and knows nothing about the life of Jesus Christ can understand the meaning of the above temporal description. I suggest that what ' Jesus Christ ' means to such an uninformed person is : the person denoted by ' Jesus Christ '. So far no egocentric particular has emerged. But clearly what ' the person denoted by " Jesus Christ " ' means is : the person denoted by any inscription of the same design as the inscription *here* quoted.

I conclude that we can, indeed, avoid talking about Newtonian absolute places and times, in the spirit of relativity theory, and substitute empirically meaningful talk about measurable relations between events. But it is confusion to say that places and times are themselves relations. They are, not relations, but *relational properties*, defined—once the theoretical language is empirically interpreted—in terms of names which in turn must be defined by egocentric particulars. And such relational properties, as I have explained, are not universals. The ideal of a purely realistic construction of the world by means of a language which does not contain names of particulars—the sort of names which are the only names a nominalist can countenance in good philosophical conscience—is an impossible ideal because we find, if only we push the analysis down to epistemological rock bottom, that egocentric particulars must be used in order to interpret co-ordinate descriptions in the observation language.

An interesting result of our analysis is that the " principle of individua-

[25] Cf. R. Carnap, " The methodological character of theoretical concepts ", *Minnesota Studies in Philosophy of Science*, vol. I (ed. H. Feigl and M. Scriven).

tion " can be secured without postulating substrata of any kind, and consequently without violating the empiricists' cherished requirement of ontological economy (" Occam's razor ") : it is none other than the medieval's *haecceitas*. It is all right to say that space-time, whether phenomenal or physical, is the principle of individuation provided one realizes that this means no more than that whatever zero-event is conventionally used as origin of the reference frame must in the final epistemological analysis be interpreted in terms of egocentric particulars.

ARTHUR PAP

MEN AND ROBOTS [1]

My topic is the difference between men and robots. In section I I shall discuss various answers which I think are wrong, and in section II give what I think is the right answer. Section III discusses one or two miscellaneous points arising out of this.

I

The traditional body-mind problem has recently appeared in a new form in the question ' Can machines think ? ', under the influence of the cybernetical hypothesis that the working of the brain is dependent on the same negative feedback principle that is found in calculating machines. A question such as this cannot of course expect to be treated for long as a simple question with a yes-or-no answer, and the emphasis soon shifts to the nature of the question rather than the answer to it (George, *Philosophy* 1956).

' Can ' may be empirical or logical. In the former case we are asking an empirical question about the capacities of machines, though we may be asking it about present-day calculating machines, machines that may be constructed in the future, or machines that theoretically could be, but probably never will be, constructed (Mays, *Philosophy*, 1957, p. 259, insists that, though a lot of things may be abstractly possible, the important question is what is practically possible. But it does not seem necessary to take this attitude). In the latter case we are in no doubt about the machine's capacities, but are asking how we should specify those capacities ; what counts as thinking ?

There seem to be at least four senses of ' machine ' (I am not concerned with just how " active " an object must be to be a machine. Is a hammer a machine ? Or a drop-hammer ?) :

(i) An object made to carry out its maker's ends. A possible way of distinguishing between humans and machines might be to say that the latter were always made by conscious beings to serve their purposes ; but this distinction would hardly work, because humans may be made by God to serve His purposes, and it may be immoral, but is not impossible, for a man to have children for similar reasons.

(ii) An object for action made of inorganic material. The issues raised here seem to be largely technological rather than philosophical. It seems difficult to see any *a priori* reason why an inorganic object should not " mediate a personality " (McKay), and the interesting body-mind problems arise over the Cartesian view of animals, where the inorganic-organic distinction

[1] I am grateful for several points suggested in discussion after a reading of this paper to a philosophical group in London. Mention should also be made of Michael Scriven, " The Mechanical Concept of Mind ", *Mind*, 1953, pp. 230-40.

is excluded. The distinction has, however, been used as relevant to the discussion (Kapp, *BJPS*, Vol. 5).

(iii) An object for action which acts by scientific laws and not by following principles. This looks more hopeful, but it raises the questions whether these modes of action are exclusive, and what is to count as " following principles ".

(iv) An object for action which does not have ends of its own. This, which can be looked on as a further development of (i), also looks hopeful, but we haven't yet decided what is to count as " having ends of its own ".

Finally, ' think ' can be ambiguous in two senses. It may mean carry out various intellectual or calculative operations, or it may mean carry out various mental operations in general (the sense of Descartes' ' Cogito '; there are, of course, other senses of ' think ' (Ryle, *Concept of Mind*), but they seem less relevant here). Of these the really interesting problems seem to concern the latter ; but a more important ambiguity is this : Does ' think ' mean achieve certain " mental " results, or does it mean achieve them by what might be called " mental " methods ?

By the time we have got all these senses sorted out it will be obvious that in some of them our original question has a simple answer as a matter of logic (George, *Philosophy*, 1956). We must beware of reducing our question to the trivial form ' Can non-conscious things act consciously ? ' If we express the question in terms of conscious and non-conscious, it seems to come to something like this : Can non-conscious things imitate conscious ones ? But what does ' imitate ' mean ? Mays (*Philosophy*, 1952, p. 155) insists that mimicking means purposive imitation, and not mere similar behaviour. However, leaving this point aside, we might rephrase our question as :

(*a*) Can non-conscious things achieve the results of conscious things ?

A further significant question which arises within the terminology of conscious and non-conscious is :

(*b*) Can a non-conscious robot be " improved " until it becomes conscious ? If our machine is not conscious at the moment, can we make it so by adding gadgets, etc. ? This involves changing something, but we might ask a similar question about the things in the universe as they now exist :

(*c*) Is there a continuous scale from the non-conscious to the conscious ? This is a simpler question in that most people, on the evidence of evolution, etc., would answer Yes. It is interesting to note that most believers in special creation would also answer Yes as far as consciousness goes, but not as far as certain specialised forms of mental functioning go, those namely which are loosely grouped together under the title ' reason '. But the Cartesians preferred to make the break before consciousness, resulting in their implausible view of animals as non-conscious.

A question very similar to (*b*), but rather more general (because it does not imply starting from an already existing non-conscious robot), is :

(*d*) Can one construct a conscious object by manipulations of matter ?

There seems to be a prejudice against saying Yes to this, on the grounds that to do so would suggest that consciousness is merely epiphenomenal, and can be created as a mere by-product of actions essentially concerned with doing something else (manipulating matter). We can see this in the furious resistance to the idea that humans could be even theoretically created in the laboratory. One might suppose that even sexual reproduction was at base the juxtaposition of material objects (sperm and ova), but these seem to be regarded as though they were not quite wholly material, but already somehow involve a spiritual element (or perhaps the objection is that the power of creating new life must belong to God alone, who achieves it by some means additional to the mere manipulation of matter; but it is hard to see why the test-tube should be more inaccessible to divine activity than the womb). As J. O. Wisdom (*PAS*, Sup. Vol. 1952, p. 5) points out, we could make a human in the laboratory by taking an ape (or amoeba) and speeding up its evolution. We could also synthesise an amoeba or ape and then let it evolve naturally. In fact the natural and artificial processes can be indefinitely mixed in either order, and there is no fundamental difference between them.

Evolution, then, tells us to say Yes to (*c*), and common experience tells us, in our sober moods, to say Yes to (*d*). This leaves (*b*) open, but takes away much of the sting of answering it with Yes, at any rate on the abstract theoretical plane.[2] The difficulty would be that a consciousness so created would be created in a different way from that in which consciousnesses are in fact created, and therefore the mass of criteria that usually confront us when we say a new consciousness has been created (the criteria presented by a newborn baby or animal) might be split up and no longer occur together, so that we should have to decide just which parts of this mass of criteria were relevant for our judgment of consciousness. In other words (*b*) makes us think about the nature of consciousness in a way in which (*c*) and (*d*), which refer to normal situations, do not.

Let us now return to question (*a*). There is a school of thought which holds that the important question is not this, but the methods by which the results in question are achieved (Polanyi, *BJPS*, Vol. 8; Mays, *Philosophy*, 1952, pp. 157-8; J. O. Wisdom, *PAS*, Sup. Vol. 1952, pp. 6-7). A robot might achieve certain calculative results, but it would use a method of exhaustive analysis, and not insight; similarly a robot might achieve the writing of a sonnet, but it wouldn't do it by the method of feeling the emotions concerned. Now it seems odd to make a difference in method the fundamental difference between two objects; one would suppose that if doing things is fundamental at all, it is what is done that is important rather than the method by which it is done, for a difference in method is only symptomatic of some further difference, which lies at the base of the difference in method, and is what we are looking for. The question of the

[2] Though strictly a Yes to (*d*) allows a trivial Yes to (*b*), if we build an artefact of the required sort and then attach it trivially to the original artefact, the whole counting as an "improvement" of the original artefact.

methods used by a robot and a human is of course important, only I think it is so rather as a criterion than for its own sake.

In asking in detail what a robot can do I must perforce, from scientific ignorance, avoid entanglement in the details of cybernetics; but I think we can say something about certain questions of philosophical interest while remaining on the necessary general level. When we ask whether a robot can "achieve the results" of conscious things we seem to be asking in the first instance whether a robot could imitate (I use the word in the wide sense, for convenience) certain spatio-temporal movements, whether it could effect certain observable changes in the physical world, such as making certain types of noise, or ink-marks on paper. Now I presume it would be generally agreed now that for any physical movement specified by certain measurements we could construct a robot to carry it out. A move away from this rather uninteresting position comes when we remember that humans not only achieve certain results, but achieve them in response to certain types of stimuli. Could we make a robot that would not only carry out a certain movement, but carry it out in response to a certain stimulus, or one of a (possibly infinite) set of stimuli, such as a word of command, or the sight of a sunset? The difficulties of correlating two sets of physical movements so that a member of one shall follow on a member of the other as response to stimulus are technological rather than philosophical, and there do not seem to be any philosophically interesting reasons why it should not be done. The philosophical difficulties start when we introduce phrases like 'word of command' or 'sight of a sunset' (and still more 'sight of a beautiful sunset') into our descriptions of the stimulus or response. The problem seems to be the same in principle whether it is the stimulus or the response that is described by this sort of phrase.

These questions come to asking whether a robot can apply criteria, or rather what sort of criteria it can apply. Let us return to the case of whether a robot can write a sonnet. Of course, if the sonnet is already known (say Shakespeare's last sonnet) the answer is simple; we can easily program a robot to write that. The interesting question is, can it write a new sonnet, i.e. something which we have not directly programmed it to write, but which we accept as a sonnet when written? A question arises here about the meaning of 'can'. The well-known case of the monkey at the typewriter typing Shakespeare's last sonnet can as easily be transferred to a new sonnet. The robot might produce a long string of words of which a certain subsection had never appeared together before, but were acceptable as a sonnet. But we are not interested in what the robot *might* produce, but in what it *can* produce. Whatever 'can' means, it presumably implies at least that there is a probability greater than chance of the robot producing a sonnet. This reminds us of the difference in method, insisted on by Mays and Polanyi, between a calculating machine going through all the possibilities seriatim, and a mind working by insight. As Polanyi (*BJPS*, Vol. 8) puts it, the heuristic (as opposed to mechanical) method involves

crossing logical gaps, and taking shortcuts. Polanyi, however, also points out (pp. 96-7) the passive nature of insight. One scans in a certain region, hopes that something will turn up, and recognises it when it does. The shortcuts seem to lie in limiting the regions which one scans (cf. also G. Polya, *How to Solve it*). Now if a machine can " recognise " (as it can), there seems no reason why it should not fairly quickly build up for itself a set of shortcuts for use on future occasions, even if it starts by a purely random, or systematic trial-and-error, process (machines can " learn "). If we grant (as I assume we can) that a machine can use its store of shortcuts not only in repetitions of the exact problem before it, but also in similar problems, it seems difficult to see what fundamental difference there is between the heuristic and mechanical methods (cf. MacKay, *The Epistemological Problem for Automata*). Moreover, insight in human beings seldom comes without training, and training is learning, either that or how. I conclude, then, that the possession of insight, at any rate by itself, is not sufficient to distinguish men from machines.

But if insight in itself will not help us, what about the applying of criteria ? If the robot is basically in the same position as ourselves as regards going out and getting the right ideas, perhaps it is in a worse position than we are when it comes to censoring the ideas that occur to it (I am of course using ' idea ' in a wide and non-committal sense here). The main criteria to be applied when writing a sonnet are of three kinds—formal, semantic and aesthetic. The formal criteria (scansion, rhyming, etc.) are of little interest, because it does not seem difficult to conceive of a robot applying these. More interesting are the semantic criteria. Can a robot produce significant sentences ? There is one way in which it obviously can. If A, B, etc., represent words, and ABCDE is a significant sentence, then the robot can obviously be programmed to accept some combinations, say AB, or ABC, and reject others, say ABD. By this method the robot might be programmed to accept ABCD, but would not know whether to accept ABCDE without a further *ad hoc* programming. Let us call this the completely extensional method of programming. It is obvious that by it the robot cannot produce (i.e. accept) any new sentences, but only those for which it has been directly programmed.

Can it be programmed to produce new sentences ? Suppose we gave it a list of animal words (horse, cow, dog, etc.), and a list of action words (runs, hides, eats, etc.), and told it it could combine any of the former with any of the latter ; then it could accept a sentence like ' horse runs ' without ever having been directly programmed to do so. But to this it might be answered that at any rate we the programmers should have to have considered and accepted ' horse runs ' before being justified in telling it it could combine any of the former list with any of the latter. Another method would be to program it with atomic sentences and connectives, and tell it that if it accepted p and q it could accept (p.q) or (p because q). This would definitely enable it to accept sentences not thought of by its programmers.

Strictly speaking our robot can now write a sonnet (of sorts), but it hasn't yet been taught to observe the world and tell us things about it. It seems to be generally agreed (even by Bunge, *BJPS*, Vol. 7) that a robot can recognise universals (e.g. react to a square as such, regardless of size or perspective). Let our robot then be able to recognise various types of animal, and various types of action, such as eating, and be programmed to report ' horses eat ', etc., if and only if it is presented with (lightray stimulation from) horses eating. If we don't know whether elephants eat, we can now simply send our robot into the jungle to find out ; if and only if it comes across elephants eating it will report back ' elephants eat ' (or accept this sentence when presented), and thus give us significant information.

Similar remarks apply to the third set of criteria, the aesthetic. We can make our robot produce beautiful sonnets (up to a point) by either complete extensional programming in terms of all possible sonnets from a given vocabulary, or a building in of certain aesthetic rules of thumb (the sense in which the robot produces beautiful sonnets is of course that it produces more often than chance would allow, sonnets which we accept as beautiful). Our robot can thus " value " or " choose ".

We now come to a second fundamental question (the first concerned insight). I have so far been at pains to show, by rather stretched and strained examples, that a robot can to some extent be a poet, and to some extent be a scientist. But to what extent ? So far I have been careful to add cautionary phrases like ' of sorts ' and ' up to a point '. One of the main points that has been made about robots is that they are insufficient, and always require programmers. This criticism has been made in various ways. Mays (*BJPS*, Vol. 2, pp. 249-50) says " the transformation of formulae according to a fixed set of logical rules is not, however, a sufficient criterion of thinking. Unless the resultant formulae or patterns of symbols are translated in terms of their referents, the transformations remain a meaningless array of physical marks " ; machines need an intelligence to program them and interpret the results (*Philosophy*, 1952, p. 159 ; cf. 1957, p. 261). Polanyi (*BJPS*, Vol. 2, pp. 312-15) similarly argues that the operations of a formalised deductive system cannot be equivalent to those of a mind, because the semantic operations of knowing, understanding, and acknowledging the truth of the axioms, etc., are not formalised, and if they were would need further semantic operations behind them, so that there must always be a mind at the end of the chain, whether the intervening links are minds or machines (cf. Mays, *Philosophy*, 1957, p. 261). A similar criticism, from a slightly different aspect, is made when Gregory (*BJPS*, Vol. 4) demands that a proper mechanical brain would have to select its own information and devise its own rules, i.e. be an inductive and not merely deductive machine, and when Popper (*BJPS*, Vol. 1, p. 195 and note) says " It is only the human brain which can create interests, purposes, problems and ends . . . we shall hardly be able to construct a machine which can criticise and re-adjust its own methods of derivation " ; J. O. Wisdom (*PAS*, Sup.

Vol. 1952, p. 12) thinks not that this is impossible, but that it would need "radically new mechanisms". Our second fundamental question then is: Can a robot go beyond its programming?

We have already seen that a robot can go beyond its direct programming, i.e. if fed with certain elements it can combine those elements in ways in which they were not combined in the programming. It is not at once obvious what is meant by the demand that a robot should be able to improve its own methods. What constitutes an improvement in method? If one is presented with the same problem on two occasions, and solves it differently on each, the most obvious fact about the situation is that one has reacted differently to the same stimulus. Dr. MacKay (*The Epistemological Problem for Automata*) has shown that a robot can do this, at least to some extent. A robot in a maze can learn to make a series of movements LRLR, and can then learn to alter these to LLRR when the maze changes. Now consider the process of learning this second lesson. When the maze changes the robot, having just turned RL, is confronted with a stimulus to which the appropriate response is L, and eventually the robot learns to react with L, but at first it goes on reacting with its old reaction R; therefore it responds differently to the same stimulus on different occasions, and I cannot see why this should not be called an improvement in method. Of course, it can be said that the robot only learns this because it has been programmed to do so, and that the total stimulus-situation is not the same. MacKay's device consists in a series of elements in a hierarchical order, each governing the behaviour of the one beneath it on negative feedback principles. This does not mean that the robot cannot learn and cannot improve its own methods as successively higher-order elements come into play. What it does mean is that there is a limit to these improvements, since the number of elements is finite; for any given machine there is a limit beyond which it cannot improve its performance, though this does not imply that no machine could be built which could give a better performance. If a robot is to get any principles of action (be they "rational" or "aesthetic" or any other) it must normally already have some built-in principles, but there does not seem to be any reason why it should not create subordinate principles for itself if it already has higher-order principles in the light of which to do this. Nor need these higher-order principles manifest themselves until the need occurs to create lower-order ones (MacKay's higher-order elements would presumably be dormant in the earlier part of the maze).

It is important to note that what matters is that the robot should have the higher-order principles necessary; it does not matter where it gets them from. In practice of course it would normally get them from its programming by intelligent designers, but (however the technological situation may stand) there seems no intrinsic reason why a statistically operating robot should not acquire such principles by chance, i.e. not under the guidance of a higher-order principle. Similar remarks apply to Polanyi's 'semantic operations'. Normally, of course, the ultimate link in the chain is a mind

which sets the robot going, but this is not logically necessary. There is nothing logically contradictory about a " fortuitous concourse of atoms " forming a ready programmed robot, and if this chance event occurred, the subsequent behaviour of the robot would no longer be haphazard, but " intelligent " to the same extent, whatever that may be, to which a properly programmed robot can be called " intelligent ", and the chance robot might make significant (i.e. large-scale) changes in the world. No doubt we should say that in such a situation no really intelligent behaviour occurred at all. This depends on what is meant by intelligent behaviour ; but the robot can certainly make systematic use of its intermediate results, and in this sense they are " understood ".

What has been said also applies to the question whether a robot can act adaptively or indulge in dialogue with a human being. Its ability to act adaptively is simply its ability to learn and improvise, and its ability to indulge in dialogue comes down in the end to its ability to apply semantic criteria.

In all these questions one must ask not only what a robot can do, but what a human can do. The commonest answer to the question wherein lies the superiority of the human over the robot ? is almost certainly to point to the human's spontaneity and self-sufficiency. But the powers of humans as of anything else are finite. It has indeed been said that the very difference between humans and robots is that humans are *not* finite in this way, but infinitely adaptable and resourceful. But this is misleading. A human can indeed take account of, and react intelligently to, an infinitely prolonged series of varying stimuli, provided these stimuli are of certain sorts. But this is because humans are capable of absorbing information from the environment, and the principles on which they act are such as to allow account to be taken of this information (as opposed to the instincts of the lower animals), and I have already argued that robots can use intermediate results in this way. But all this does not alter the fact that there are limits to human intellectual capacity, and also to the capacity to improvise and develop new methods ; only those who already have some skill and knowledge can do these things. In the case of principles and values a point of fundamental importance has been made by Nowell-Smith (*Ethics*, pp. 310-14), who points out that though we can change any of our principles we cannot change all of them at once ; there must be some principle which underlies any given change, and in the light of which the change is made, though this principle itself may be changed on another occasion. We can only choose something by having a principle which guides our choice, no matter where we got this principle from. Of course, there is nothing absurd in a human's suddenly manifesting a totally different set of principles from previously without being able to give any rational account of the change, so that the change seems to have been made *not* in the light of any abiding principle. But in this case we can hardly be said to have chosen the new principles, and there is nothing to prevent a robot suddenly acquiring new principles ab extra.

It is perhaps significant that in the case of humans this sort of situation often arises after purely mechanical interferences like leucotomy. To say humans can only do what they are programmed to do is misleading, because it suggests that they are manipulated by an intelligent programmer. But it is both less misleading and more plausible to say that humans can only do what it is in them to do, or cannot go beyond their nature. Whether we choose to say that a human is " programmed " by evolution, or his hereditary make-up, is perhaps unimportant, though it is probably better to keep the word for an intentional process. But it is interesting that B. M. Adkins (*BJPS*, Vol. 2, p. 248), who is concerned to defend Descartes' principle that there is as much reality and perfection in the cause as in the effect, is apparently led into supposing that there must be an intelligent deity at the back of everything. If we reject Descartes' principle, then machines can as well go beyond their makers as men can go beyond their evolutionary background.

II

So far I have been trying to show that, provided we stay on a theoretical level and do not involve ourselves too far in technological details, it is difficult to state any fundamental difference between minds and machines in terms of what they can do. This might have given the impression that there is no fundamental difference between them at all, which would be absurd, because we have already stated the problem in terms of the relations between conscious and non-conscious, and we are trying to examine these relations. This does not mean that we could not create an artefact which turned out to be conscious ; but such an artefact would be a human (or some such thing) and not a robot in our present sense.

I have talked about robots " choosing ", " thinking ", etc., but have usually been careful to preserve the inverted commas ; robots do not choose, they " choose ". But what does this imply ? The first thing that suggests itself is that they do something rather like choosing, but not the same as it, or in other words that they imitate choosing (etc.). But what is it to imitate something ? (Mays, as said above, insists that ' imitate ', or ' mimic ', can only be used of a conscious being. This is to say that robots don't imitate, but " imitate ", just as they don't think, but " think ". For the moment, I am using ' imitate ' as the genus for ' imitate ' and ' " imitate " ' ; the results we arrive at concerning ' think ' etc., can easily be applied later to ' imitate '.) I doubt if there is any answer to this question more specific than " to do something with a difference ". To imitate something may mean to do the same action in a different material (imitate a bear dancing ; cf. ersatz foods), or to do the same action with a different intention (actors in a play having an argument, child mimicking its father), or to do the same thing by a different method (aeroplanes imitate birds), or to do the same thing in different circumstances (imitation Gothic). Among the different circumstances in question may be that the action is not being done for the first time or spontaneously, but as a copy of a model, and is in this sense

dependent on the former action. What then is the difference between a human choice and the imitation of it that a robot makes? It cannot be merely that the robot does exactly the same as the human, but is second in the field, as when a son imitates his father's choice of a career; for here the son makes a choice which is an imitation of his father's choice, but we have already signified, by using inverted commas, that the robot does not make a choice, but a "choice" (what the son imitates is his father's choice; he doesn't imitate *a* choice, but makes a choice; but the robot imitates *a* choice). But on the other hand the robot can, apparently, achieve the same results as a human. We must evidently look to that part or aspect of the choice which is least susceptible of imitation, and if the achievement of results, or action, can be imitated, this leaves what is not the achievement of results, or passion, and here I think lies the answer. The robot cannot feel or experience; and neither can it "feel" or "experience", if the inverted commas mean what they have been meaning up to now, namely that whatever is connoted by the term without the inverted commas is achieved with a difference. The robot does not achieve feeling with a difference, because this does not make sense. One either feels or one doesn't feel. There are no "results" of feeling which can be achieved in some other way or in different circumstances. Let me add again that I do not mean that no artefact will ever achieve feeling, but that such an artefact would not be a robot, in my sense, but a human, or on the human side of the fence. There does not seem to be any *a priori* reason why human reproduction must always be by the sexual method, or even in organic materials.

By feeling or experience I do not mean merely feelings or sensations in the narrow sense, but rather that which one experiences as done to, or happening to, one. Of course human events cannot be exclusively distinguished into actions and passions. Mental events are nearly always a mixture of these, and it is because there is this element of experience ineluctably bound up in such things as perceiving, thinking, being aware of, intending, deciding, choosing, and even calculating, that we do not say that robots perceive, but only that they "perceive", etc.

I conclude, then, that the difference between men and machines lies primarily not, as usually seems to have been thought, in what they can do, but in what they can suffer or experience. Of course, there are differences in what they can do, the differences expressed by the use of inverted commas, but these are not basic, but dependent on the differences in what they can experience, for only humans can feel. (I do not want to get involved in questions of the nature of perception. When I say or imply that perception involves an element of sensation, I do not necessarily imply an analysis in terms of sensation plus interpretation, or any particular analysis, but only that when I see a red patch part of what I am doing (in the widest sense, now, of doing) is something which a machine can neither do nor imitate, and which may bring me either pleasure or unpleasure.)

This distinction seems to be ultimate and irreducible, and is, I think, important as supporting the Cartesian emphasis on the distinction between conscious and non-conscious rather than that between rational and non-

rational (that in their enthusiasm for man they put animals on the wrong side of the barrier is of secondary importance). Traditionally there have been three grades in the universe—non-conscious and non-rational (minerals, vegetables, and perhaps lower animals), conscious but non-rational (higher animals), and conscious and rational (man). In this scale the rational is a sub-class of the conscious, and so (in accordance with the Aristotelian principle that the highest part of anything is that which is peculiar to it) is the highest part of it. But no mean part of the philosophical importance of cybernetics seems to lie just here, in showing that the rational side of human activity is not beyond imitation by machines, while sentience is beyond imitation altogether ; one either has it or one hasn't. This suggests that the rational-non-rational scale is separate from and independent of the conscious-non-conscious scale. This in turn should not be without effect on the ethical dichotomy between the Platonic-religious tradition, with its emphasis on man as a rational creature, and the Utilitarian-humanist tradition, with its emphasis on man as a sentient creature.

III

In conclusion there are one or two other problems that merit some discussion. I have mentioned earlier the difference between artefacts made of organic and inorganic materials, and also the suggestion that an inorganic object might one day be made that really was conscious. I have defined consciousness as something essentially unobservable (at any rate by observers other than its possessor), because it is something that happens to a thing rather than something which a thing does. How then can we ever tell whether we have made a conscious artefact or not ? The chances are that we never can tell—for certain. But suppose an organic artefact were made which to all intents and purposes resembled a human ; would it make sense to suggest that it was not conscious ? I think it would, because it would always make sense to ask whether it would be immoral to hit it over the head for no good reason (I omit cases where the artefact is someone's property ; anyway, we could postulate that the blow didn't functionally harm it, but would cause pain if it were conscious). This doesn't tell us what we are asking when we ask whether the artefact is conscious—if feeling and consciousness form a separate category, as I believe, it is hard to see how the question could be explicated further—but it does tell us that we are asking something. But as for answering this question, it would seem a reasonable procedure to say that if there were no observable differences between the artefact and a human we should assume that it was conscious and put the onus of proof onto anyone wishing to dispute this. It is more difficult to say what criteria would have to be satisfied before we should attribute consciousness to an artefact made of inorganic materials (i.e. not obviously human in appearance). We could only settle the question by observing its behaviour. I have suggested that a robot *could* be made which would write a sonnet ; but such a robot would have to be designed in a certain way, and if our artefact started writing sonnets without apparently being designed in that way I suppose we should call it conscious (in other

words we should fall back on the distinction, used by Mays and others, in the methods by which things are done, a distinction which I have already suggested is not invalid but secondary).

I suppose a discussion of this nature should not completely ignore the unconscious. I have been treating mentality in terms of consciousness, but there are (in some sense) unconscious beliefs, desires, etc. Suppose an artefact were made which apparently exhibited unconscious mental phenomena, but not conscious ones (i.e. acted, as human beings do in these circumstances, in some ways as if it had desires and in some ways as if not); what then? Such an artefact *could* perhaps be called either a superior robot or an inferior human, but in the interesting sense it would not be human (it would not be wrong to knock it on the head). Perhaps someone might say that an inorganic artefact acting (fully) " mentally " was in fact only exhibiting unconscious mental activity. In answer to this we could firstly put the onus of proof on such a person, and secondly simply admit that the question whether an apparently conscious artefact was really conscious might not be decidable with certainty.

I have talked of the possibility of bodies without minds, and this leads naturally to the question of minds without bodies. I do not intend here to go into the question of disembodied minds, but will end with a note on why we can say that I fell or jumped over the cliff, or that my body fell over it, but not that my body jumped over it. This gives the impression that my body is a rather inferior thing, which is incapable of jumping, and that only " I " can jump. This is true, in a way, but it must not be taken to mean that my body is an inferior *thing*, and that I am a superior *thing*, made up of my body plus some other thing. The difference is surely logical. ' Body ' is a word confined by definition to sentences about " non-mental " actions; when we want to talk about " mental " actions we use other words (' person ' or ' I '), but we are not talking about other things. To say ' my body jumped ' is to commit a logical or grammatical solecism, but not a metaphysical solecism. To say ' I am no more than my body ' commits the same solecism, but I can truly say ' I am no more than the thing you see in front of you ', and also (when relevant !) ' the thing you see in front of you jumped off the cliff '.[3] Does this mean that the physiological and mentalistic stories are simply different phrasings of the same thing? No, because this would beg the question whether an organic artefact was or was not conscious. It is an empirical fact that some organic objects have rather remarkable properties (they can think, feel, etc.). To equate logically the physiological and mentalistic stories would ignore this, though there may well be a universal material equivalence between them.

A. R. LACEY

Bedford College, London.

[3]Dr. MacKay has suggested to me an objection along the following lines (the responsibility for this statement of it is mine): It is unfair to distinguish people from robots by saying people can feel and robots can't, because the analogue to a robot (which is the name given to a mass of wires and valves, etc.) is not a person but a brain, and brains can no more feel than robots can. My answer is that to say a robot " mediates a personality " is to say that either the robot, or something correlated with the robot as a person is correlated with a brain, can feel. As things are, to say that a robot or artefact can feel involves a factual error as well as a logical solecism, while to say that a brain can feel involves (if I am right in the text) only a logical solecism.

DISCUSSIONS

PRESUPPOSITIONS

Strawson[1] has distinguished presuppositions from entailments as follows : a statement S is said to entail another statement S′ when the truth of S′ is a necessary condition of the truth of S, whereas S presupposes S′ when the truth of S′ is a necessary condition of the truth-or-falsity of S. If S entails S′ and S′ is false, then S is false. But according to Strawson, if S presupposes S′ and S′ is false, then S is neither true nor false ; the question of its truth or falsity " does not arise ". Strawson illustrates the presupposition relation with this example :

> Suppose someone says ' All John's children are asleep '. Obviously, he will not normally, or properly, say this, unless he believes that John has children. But suppose he is mistaken. Suppose John has no children. Then is it true or false that all John's children are asleep ? Either answer would seem to be misleading. But we are not compelled to give either answer. We can, and normally should, say that, since John has no children, the question does not arise.[2]

In this example the statement ' All John's children are asleep ' presumably presupposes (but does not entail) the statement ' John has children '. Presupposing is thus meant to be a logical relation, holding between statements, and parallel with entailing.

Two objections can be immediately raised against the idea of presuppositions, as described and illustrated by Strawson. First, presupposing cannot be a relation between statements, if a statement is either true or false by definition. If a statement must be either true or false, and the presuppositions of a statement must be true if the statement is either true or false, then there is simply no statement when these presuppositions are false. Thus, in the above example, the person who says ' All John's children are asleep ' when John has no children can be said to have failed to make a statement. But if Strawson's analysis is accepted, we must say that a statement has been made, but there is no sense in asking whether it is true or false. This forces us to say that a statement need not have a truth-value. A second objection is that Strawson confuses two meanings of ' statement ' in his theory of presuppositions. ' Statement ' can mean a linguistic event, such as uttering the words ' All John's children are asleep.' But ' statement ' can also mean the words, such as ' All John's children are asleep ', viewed not as utterances but as sentences representing states of affairs. In the

[1] P. F. Strawson. *Introduction to Logical Theory*. London : Methuen & Co., 1952, pp. 173-179.

[2] *Ibid.*, pp. 173-174.

second sense (and not the first) statements have truth-values, are believed in or doubted, are the subjects of debate, and so on. And logical relations, such as entailment, only hold between statements in the second sense. But presupposition relations, as described by Strawson, seem to hold between a statement in the first sense and a state of affairs. Thus, when someone utters the words ' All John's children are asleep ', he might be said to presuppose that John has children ; if John has no children, the utterance seems to be pointless or futile. Hence, the objection concludes, Strawson is wrong in suggesting there is a logical or quasi-logical relation of presupposing between the statement ' All John's children are asleep ' and the statement ' John has children '.

The two objections outlined above are, I believe, sufficient reasons for rejecting Strawson's account of presuppositions. This is not to say that Strawson has no answer to them ; these objections themselves contain assumptions, such as an assumption that logic is not a branch of empirical linguistics, which Strawson appears to question. In the remainder of this discussion I will not, however, carry the direct argument against Strawson any further. Instead, I will argue that Strawson has not shown any necessity for invoking the notion of presupposing, conceived as a statement-connective distinct from entailing. First, I will try to re-state Strawson's reasons for rejecting a position held by many logicians, in favour of his theory of presuppositions. Secondly, I will argue that Strawson's appeal to ordinary speech does not succeed in showing the need for adding the notion of presupposing to logic. Finally, I will argue that Strawson agrees, at least by implication, that entailing and presupposing are not logical notions in the same sense of ' logic '.

I

One of Strawson's general theses is that in " a realistic study of the logic of ordinary speech " it is necessary to " think in many more dimensions than that of entailment and contradiction, and use many more tools of analysis besides those which belong to formal logic ".[3] The notion of presupposing appears to be one of the additional concepts required. Hence, Strawson's discussion of presuppositions can be viewed as an attempt to show that using formal logic alone, we cannot see realistically the logical relation between statements like ' All John's children are asleep ' and ' John has children '. Suppose, argues Strawson, we try to describe the logical connection between these statements, using the apparatus of formal logic. The statement ' All John's children are asleep ' can be interpreted in two ways ; as an instance of the statement-form :

(1) $(x)\,(fx \rightarrow gx)$

or as an instance of

(2) $(x)\,(fx \rightarrow gx)\ .\ (\exists x)fx$

while the statement ' John has children ' is an instance of

$(\exists x)fx.$

[3] *Ibid.*, p. 213.

If we accept (1) as an interpretation, then the falsity of the statement ' John has children ' is a sufficient condition of the truth of ' All John's children are asleep '. If we accept (2), the existential interpretation, then the falsity of ' John has children ' is a sufficient condition of the falsity of ' All John's children are asleep '. Thus, the use of symbolic logic " forces us to conclude that the *non-existence* of any children of John's is sufficient to determine the truth or falsity of the general statement ", whereas " the more realistic view seems to be that the existence of children of John's is a necessary precondition not merely of the truth of what is said, but of its being either true or false ".[4] By saying it is the more realistic view, Strawson means that it conforms more closely to what " we normally should say " in such a case, namely, that " since John has no children, the question does not arise ".[5]

The above argument appeals to what we " normally should say " in order to show that a " realistic " logic will use the notion of presupposing. In later contexts, Strawson argues that the logician, using only the tools of formal logic, finds himself committing a kind of " linguistic outrage ". Thus, he objects as follows to the first interpretation, according to which, for example, someone who says ' There is not a single book in his room which is not by an English author ' has made a true statement, in case there are no books at all in the room :

> So it is that if someone, with a solemn face, says ' There is not a single foreign book in his room ' and then later reveals that there are no books in the room at all, we have the sense, not of having been lied to, but of having been made the victim of a sort of linguistic outrage. Of course he did not *say* there *were* any books in the room, so he has not said anything false. Yet what he said gave us the right to assume that there were, so he has misled us.[6]

A similar charge is made against using interpretation (2), where, for example, the statement ' He will die in the course of the next two months ' would be considered to include the statement ' He is now living ', and hence false in case he is not now living :

> Thus, if someone says, ' He will die in the course of the next two months ', it is linguistically outrageous to reply ' No, he won't, *and then give as one's reason* ' He's dead already '. If the event has already taken place, the question whether it will take place within the next two months or not is a question which does not arise. ' He's dead already ' disputes the presupposition that his death lies in the future, that he is not dead already. But it does not *contradict* the original statement, since to do this would be to admit its presuppositions ; and hence does not contradict anything entailed by the original statement.[7]

[4] *Ibid.*, p. 174.
[5] *op. cit.*
[6] *Ibid.*, p. 178.
[7] *Ibid.*, p. 213.

Thus, argues Strawson, either interpretation (1) or (2) leads us to commit outrages when we are dealing with ordinary statements. Using the original example, we would be forced to say either (1) ' You are right in saying that all John's children are asleep, because he has no children ', or (2) ' You are wrong in saying that all John's children are asleep, because he has no children '. To avoid this, concludes Strawson, we should enrich our logical vocabulary by bringing in the notion of presupposing.

II

To call a view ' realistic ' in contrast to another view is to suggest there are facts that are independent of the views we hold. The main fact used by Strawson is what " we can and normally should " say ; in the original example, the fact that if John has no children, we can and normally should say the question whether all his children are asleep does not arise. Granting this is a fact, does it go to show that there are presupposition relations among statements, as described by Strawson ? Strawson suggests that according to what we normally say, the question whether the original statements is true or false does not arise when John has no children, whereas (according to Strawson) some logicians say this question does arise and has a definite answer ; it is true according to those who accept interpretation (1) and false according to those who accept interpretation (2). But no logician, I believe, would quite agree with this. The formal logician would argue that the answer to the question, is the assertion that all John's children are asleep true or false when John has no children ? depends on how we interpret the original statement ; the question simply cannot be answered without a decision as to its interpretation. Considered as (1) a statement that there is nothing which is both a child of John and is not asleep, it is true in case John has no children. Considered as (2) a statement that there is nothing which is both a child of John and is not asleep, and John has at least one child, it is false in case John has no children. It is misleading to argue, as I believe Strawson does, that whereas we normally say the question of the truth or falsity of the original statement does not arise when John has no children, this question does arise and can be answered according to what the formal logicians say. It is misleading because it makes the formal logician seem to directly contradict what we should normally say. This is not the case ; the formal logician goes beyond what we should normally say (but does not contradict it) by rephrasing the original statement in such a way that it will make sense to ask whether it is true or false, and so that the question can be answered. Strawson's appeal to what " we can and normally should say " does not, therefore, go to show that a " realistic " logic must use the notion of presupposing in addition to the notions of entailing and contradicting.

The above argument was directed against Strawson's direct appeal to ordinary language, in support of his theory of presuppositions. Strawson also makes an indirect appeal to ordinary speech, by arguing that if we do

not use the notion of presupposing, and employ only the tools of formal logic, we will be led to results which are linguistically " outrageous ". Thus we will be led to say either (1) a good reason why the statement ' All John's children are asleep ' is true is the fact that John has no children, or (2) a good reason why the statement ' All John's children are asleep ' is false is the fact that John has no children. This appeal to linguistic propriety can be answered by pointing out, again, that the formal logician will insist on rephrasing the original statement, and when this is done the appearance of linguistic impropriety vanishes. Thus, it is perhaps cumbersome but not outrageous to say, (1) the statement ' There is nothing which is both a child of John and not asleep ' is true in case John has no children, or, (2) the statement ' There is nothing which is a child of John and not asleep, and John has at least one child ' is false in case John has no children. It can also be objected against Strawson that the expression ' linguistic outrage ' is ambiguous. It might mean ' contradiction of the rules of the language '. Thus, in this sense, ending a sentence with a preposition is a linguistic outrage, because it violates a well-established grammatical rule. But ' linguistic outrage ' could also mean ' unfamiliar or unheard of use of words '. Strawson shows, perhaps that the formal logician is led to commit " outrages " in the second sense (but not the first). Thus, the person who says, the reason why the statement ' He will not die in the course of the next two months ' is true is the fact that he is already dead, could be said to be using the word ' reason ' in an unfamiliar way. But why is this objectionable ? It is surely odd to argue that every unfamiliar use of words is somehow perverse or illigitimate. What has happened, I believe, is that Strawson meant to show that the formal logician is led to commit linguistic outrages in the first sense (led to contradict well-established linguistic rules) but all he actually shows is that the formal logician will be led to use words in an unfamiliar way (unfamiliar, that is, to the ordinary man who has not studied logic). I conclude, then, that Strawson's appeal to linguistic propriety is not a damaging argument against the logician who uses only the apparatus of formal logic, without adding the notion of presupposing, to describe the relations among ordinary empirical statements.

III

In the previous section I have argued that Strawson has not given any very good reasons why it is necessary to add the notion of presupposing to logic. In conclusion, I suggest that Strawson uses the word ' logic ' to refer to two different disciplines, and that it might well be the case that the notion of presupposing belongs to one (but not the other). By ' logic ' Strawson sometimes means a normative discipline, whose task is to " appraise " the statements and inferences we make in ordinary discourse. Strawson maintains that in order to do this we need the notion of presupposing in addition to the concepts of entailing and contradicting ; the aim of this discussion has been to show that the notion of presupposing is not

needed, or, at least, that Strawson has not convincingly shown the need. But by ' logic ' Strawson also means something like a study of the reasons why, in ordinary speech, we use the particular linguistic expressions we do normally use. Thus, he suggests the following questions as questions belonging to the " logic " of ordinary speech : " What are the conditions under which we use such-and-such an expression or class of expressions ? " and " Why do we say such-and-such a thing and not such-and-such another ? "[8] The notion of presupposing might belong to such a discipline ; for example, the normal use of the words ' All John's children are asleep ' in order to make a true or false statement could be said to presuppose that John has children. But presupposing would not then be a logical notion in the first sense of ' logic ' ; it would be a notion belonging to a descriptive study of ordinary language.

ROGER HANCOCK

Hobart College, Geneva, New York.

[8] *Ibid.*, p. 232.

ON THE BREAKDOWN OF MORAL ARGUMENTS: A REPLY TO PHILIPPA FOOT

In an article entitled " Moral Arguments " (*Mind*, Vol. LXVII, October 1958, p. 502) Philippa Foot attempts to refute the claim of certain moral philosophers that moral arguments may always break down in a way in which other arguments do not. This claim, Mrs. Foot argues, can be refuted if two major points can be proved; namely, that factual premises may entail (or count as evidence for) evaluative conclusions, and that there is a definite material criterion for valid moral arguments. In this discussion I shall try to suggest the ways in which Mrs. Foot's theses—even if correct—succeed or fail to succeed in refuting this claim. In particular, I shall try to show that all moral philosophers may not be referring to the same thing when they talk of the break-down of moral arguments and that they may in fact be referring to any one (or all) of three possible ways in which this break-down may occur.

Before enumerating these different areas of possible break-down, however, it is necessary to specify more precisely the nature of the claim. I take it that a break-down would occur in a situation such as this : A and B are having an argument about something to do with morality. They have reached a point at which each is asserting a conclusion which is irreconcilable with that of the other's. Because of some feature inherent in moral arguments each is *justified* in holding to his conclusion. Consequently, the argument *qua* argument breaks down.

It is my contention that the following are among the different places or ways in which a break-down might occur. (1) If it were the case that there were no criteria of validity to which a given moral argument might be appealed, then moral arguments would break down precisely because every argument would be as good as every other one. (2) If it were the case that there were certain criteria by which valid from invalid moral arguments might be distinguished, and if it were also the case that two incompatible conclusions could be drawn in a manner consistent with these criteria, then an argument over these two conclusions might break down precisely because the criteria could be appealed to in support of either conclusion. (3) If it were the case that there were no criteria which governed the selection of the proper criteria for moral arguments, then a moral disagreement might break down precisely because there would be no way of deciding which set of criteria controlled the dispute.

Mrs. Foot's discussion indicates that she has by no means fully considered all of these possibilities. To the extent to which she has shown that moral arguments may be deductive in form and that factual premises may entail moral conclusions, she can be interpreted as demonstrating that break-downs of the first kind need not occur. That is to say, if it should be argued

that ethical arguments break down *because* there is no logic which differentiates valid from invalid ethical arguments (as the emotivists and subjectivists might wish to do) then Mrs. Foot has, perhaps, refuted this assertion.

But to concede this is not to concede very much. For surely both Hare and Stevenson (the two moral philosophers she attacks specifically) would insist that there are certain criteria of validity which are applicable to ethical arguments. Perhaps, then, break-down (2) is what is at issue.

Hare's criteria furnish a typical example. He proposes that a conclusion is a valid moral conclusion if and only if it is formally deducible from some principle which the proponent is prepared to universalize and to regard as overriding in cases of conflict. Given these criteria, a break-down of the sort envisaged by Mrs. Foot seems surely possible. For each of two disputants might begin with a quite different premises (which he was prepared to universalize and treat as overriding) and in this manner deduce a conclusion which was irreconcilable with that of his opponent's. In such a case the argument would break down not because of a disagreement as to the criteria for valid moral argument, but because the criteria allowed for such incompatibilities to occur.

Mrs. Foot meets this second type of potential break-down in a rather familiar fashion. She proposes a set of criteria which includes *material* as well as formal requirements. And although she does not specify this additional material criterion, she indicates that it is probably similar to that offered by such moral philosophers as Bentham and Toulmin. But even if we grant this additional material criterion, Mrs. Foot surely has not demonstrated that this second type of break-down might not occur. For to the extent to which this material criterion remains general in statement it seems quite plausible to suppose that A and B could reach irreconcilable conclusions even while carrying on their argument within the narrower confines of this criterion of valid moral discourse. At the very least, Mrs. Foot has not shown why these conflicts cannot occur.

More importantly, the one thing which is accomplished by the insertion of the material criterion is this : the range of permissible moral action and valid moral argument is severely narrowed. Even if we concede that break-downs within " morality " will not occur once this material criterion is inserted, this is so only because most of the truly significant problems have now been put " outside " of morality. At best, Mrs. Foot has succeeded only in relegating to the area of non-moral discourse many of the traditional issues of morality. She has not shown how the same *kinds* of irreconcilabilities will not occur here ; she has not demonstrated how break-downs very much like those envisaged by Hare will not recur in the domain of amorality. And for this dubious victory she must pay a rather heavy price : she, as a moral philosopher, will have to work much harder to convince people of the truth of that usually accepted proposition—that people ought to be moral.

Finally, if the third type of possible break-down is considered, it is clear

that Mrs. Foot has nowhere suggested why this particular material criterion is a requirement for ethical argument ; or, indeed, why her criteria in general are the criteria for valid moral reasoning. If, as she seems to assume, this criterion is to be taken from the way in which we do often use ethical terms, then, despite her protestations to the contrary, she stands guilty of having substituted the prevailing morality for the test of moral validity. If this is not the justification for her criteria, then she has not provided any arguments for their acceptance. And it is precisely *this* feature which, I submit, is most often referred to by moral philosophers when they speak of the break-down of moral arguments. Mrs. Foot has nowhere provided us with even a clue as to how we are to decide between conflicting criteria for valid moral argument. A and B may both insist that they wish to do *the moral thing*, but they may be in irreconcilable disagreement as to the criteria which determine correct moral reasoning. It is at this point that many moral philosophers have suggested that the decision must be made by each individual for himself, and that the philosopher can only paint pictures of various ways of life. And it is this third type of break-down to which Mrs. Foot's article is wholly unresponsive.

Unless Mrs. Foot can demonstrate how the second *kind* of break-down is to be avoided without making moral discourse both sterile and trivial, she has partially solved the break-down problem only by creating an analogous one of comparable import. And unless she can provide us with a non picture-painting solution to this third type of break-down, she has failed in her attempt to restrict significantly the occurrence of that kind of break-down which is most often the concern of moral philosophers.

RICHARD WASSERSTROM

University of Michigan.

CRITICAL STUDY

Kant's Critique of Pure Reason. By T. D. WELDON. (Oxford : Clarendon Press. 2nd ed., 1958. Pp. xi + 331. Price 35s).

This is a revised and greatly enlarged version of a book first published in 1945. The aims and method of the book, and the main lines on which the *Critique* is interpreted, are substantially unaltered. The chief new features of the second edition are that efforts have been made, with varying degrees of success, to express Kant's views in contemporary idiom, and that his theories are frequently criticised in the light of ideas derived mainly from 'The Concept of Mind' and from modern philosophies of science (Schlick, Born, Braithwaite) and of mathematics (Russell). In general, the attempts at modernisation seem to me slightly superficial, and I doubt whether a reader of the first edition would find his understanding of Kant much increased by a perusal of the second.

As many readers of this review will be unfamiliar with the first edition, I shall, in what follows, treat the second as a new book, and not draw further attention to differences between the two editions.

Part I summarises the views of Descartes, Leibniz, Locke and Hume so far as they are relevant to Kant's, and then gives some account of Wolff, Baumgarten and Meier and of Kant's early works. Part II, which occupies more than half the book, contains a summary, interspersed with comments, of the *Critique*. Part III consists chiefly of a discussion of the doctrine of Inner Sense and its relations to Tetens' psychology, and of a more detailed examination of certain parts of the *Deduction* and of the *Analytic of Principles*.

Parts I and II are intended to be intelligible to readers who have no previous acquaintance with Kant's writings, and to show how the Critical Philosophy is related both to the scientific and philosophical thought of his time and to philosophical issues which are alive today. The summary is on the whole fair, but it is highly compressed, and the explanatory comments are sometimes not clear enough to make it intelligible to the beginner. The references to modern theories are not always likely to help him. For example, we are told (p. 82) that what the distinction between phenomena and things-in-themselves amounts to is simply a rough theory of types, before what Kant actually says about the distinction has been discussed, and without any clear indication of what a 'rough theory of types' might be. It is doubtful whether the beginner will be helped to grasp Kant's distinction between sense and understanding by the suggestion (p. 131) that the distinction between 'just sitting' and 'sitting and think-

ing ' may best be described by an adverb such as ' observantly '—though there is something quaintly attractive about the idea of, say, Leibniz being a specially observant sitter. Weldon suggests (p. 174), quite reasonably, that Kant's question ' How is pure physics possible as a science ? ' could be re-worded to read ' what are the presuppositions of Newtonian mechanics ? ', and continues, ' Normally it ' (i.e. ' presupposition ') ' means a credible or plausible genetic or historical account of the way in which something comes to happen. In Leibnizian terminology it is an argument from sufficient reason and not from logical necessity . . .'. The beginner—and not only the beginner—who reads on the next page that some sort of causal law and some sort of conservation principle are presuppositions of scientific thought as such, is likely to be left without the faintest idea of what Weldon thinks ' presupposition ' means. From the beginner's point of view, Weldon allots, in Part II, too much space to some topics and not enough to others. For example, twenty pages are devoted to the preface to B, and only two to the *First* and *Second Analogies*. In particular, the account of the *Second Analogy*, even when supplemented by the fuller exposition in Part III, is inadequate and obscure, and includes no discussion of the kind of criticism, which certainly ought to be considered, made by Broad (*P.A.S.* 1925-6) more than thirty years ago. In a section intended for beginners, I think that some of Weldon's suggestions to the effect that Kant's views were really views about language ought to receive more support than he gives them—e.g. the suggestion (p. 109), for which he thinks there is much to be said, that Kant's true aim in the *Critique*, so far as it is a contribution to epistemology, was ' to think out and clarify our ordinary use of perception words ', and the one made on the next page that when Kant talks about forms of sensibility ' he has in mind a linguistic convention for discussing our visual experience ' (what it means to say ' I see a house ').

The reader who is familiar with the *Critique* will be grateful for Weldon's concentration on passages which are both important and exceptionally obscure—e.g. §10 of the *Deduction* (on synthesis in general), §24 of the *Deduction* in B (on Inner Sense) and the chapter on Schematism. Some of Weldon's apparent inconsistencies are, however, as difficult to explain away as Kant's. How are we to reconcile the statement (p. 268) that Kant undoubtedly maintained that ' there is a universe of events in space and time which is objectively real in the sense of being independent of any and every percipient mind ' with the general tenor of his interpretation of the *Critique*, exemplified on the very next page by the remark that the realities with which physics deals are representations ? Or the statement (p. 212) that for Kant ' psychology was only guess-work about physics ' with the view expressed elsewhere that he accepted psychological doctrines derived from Locke and Tetens, which, whatever they were, could certainly not be described as ' guess-work about physics '.

Part III is intended to indicate a line of approach to the *Analytic* ' which is likely to be profitable and which has received too little attention hitherto '

(p. viii), but it is not entirely clear what this approach is supposed to be. I think its chief feature is the great importance attached to the doctrine of Inner Sense and of time as its form. Whether this is so or not, the chapter on Inner Sense seems to me the most interesting chapter in Part III. One is inclined to dismiss Kant's account of Inner Sense as simply the unfortunate consequence of his general view about our knowledge of individuals. We can have knowledge of them only by means of some kind of sense ; a condition of sensuous knowledge is that the self should be affected in some way, and a condition of our knowledge of the empirical self is that the self should somehow be affected by itself. Hence the almost unintelligible account of Inner Sense give in the *Transcendental Deduction* in B. But merely to say this leaves unanswered the question which Weldon rightly raises on p. 255—why should time be connected with inner rather than with outer sense ? Weldon seems to maintain that the doctrine of Inner Sense with time as its form was the result of certain beliefs about the physiology and psychology of perception which Kant took over from Tetens, and that so far from being merely a by-product of the general theory of knowledge expounded in the *Critique*, it gives rise to a problem which the *Analytic* is in large part an attempt to solve, namely, how it is that time, essentially the form of inner sense, is projected into the phenomena of which outer sense gives us knowledge. Unfortunately, being unable to attach any clear meaning to such sentences as ' The result of inner sense is to impose on the synthesizing activity of the understanding (which in itself is non-sensuous and therefore non-temporal in nature) a temporal form, so that the timeless thinking which is the real self is represented as a series of discrete activities located in time, just as by outer sense the non-extended thing in itself appears as located in space ' (p. 267), I find Weldon's account of the doctrine of Inner Sense no more intelligible than Kant's ; and what he says about its relations to other positions maintained by Kant is sometimes inconsistent —e.g. he says on p. 179 that it has really nothing to do with his general doctrine as regards scientific method, and on p. 250 that it is an essential ingredient in the philosophy of science as he conceived it. As an interpretation of the *Analytic*, Weldon's suggestion seems unplausible. On his view, if I have understood it, Kant's chief problem about time is ' what is presupposed by the conjunction of certain assumptions about the physiology and psychology of perception and the fact that phenomenal (physical) objects are in time ? ' But the problem which Kant in fact seems to be discussing is rather ' What is presupposed by our knowledge that all physical events are datable in a single temporal series and that they have a temporal order distinct from that of our representations of them ? ' And this question would arise quite independently of his special views about inner sense. Whether this is correct or not, Weldon in some cases clearly exaggerates the influence of those views. He states (p. 187), for example, that Kant's argument in the *Second Analogy* depends for its force on the doctrine of inner sense, and describes (p. 311) an argument ' prominent . . . in the

Second Analogy ' as the argument ' from inner sense ' ; but neither the statement nor the description is justified by his own exposition of the *Second Analogy*.

Weldon's discussion of synthesis in general (with its emphasis on counting as the model) is also interesting. But I find it hard to make out what he thinks the relation is between empirical and transcendental syntheses. He seems to take it for granted that they must be processes of different kinds, and does not consider the possibility that one and the same process may properly be called both transcendental and empirical. For to call a process of synthesis transcendental need mean no more than that it is presupposed by and explains certain *a priori* knowledge that we possess ; to call it empirical may mean only that it deals with the matter of sensation ; and the same process may have both these characteristics.

On the whole, the book seems to me to be too deficient in lucidity, consistency and precision to be really valuable either as an introduction to or as a commentary on the *Critique*. Nevertheless, the comparative beginner will find some stimulating suggestions in Part II which he might follow up with profit, and the more advanced student may find Part III useful when he is grappling with some of the more puzzling sections of the *Analytic*.

H. H. Cox

Lincoln College, Oxford.

BOOK REVIEWS

Essence et Existence. Essai sur la Philosophie de Nicolai Hartmann et Roman Ingarden. By ANNA-TERESA TYMIENIECKA. (Paris : Aubier. 1957. Pp. 249. Price 990 fr.).

In philosophy—as opposed to any other branch of arts or science—one may be considered to have made a genuine contribution if one merely restates a theory that somebody else had put forward earlier. The question how this can be so might lead to illuminating reflections on the nature of this subject. Considering the close, though highly mysterious, connection between philosophical thoughts and the linguistic formulations in which they are expressed, such publications (unless they propound the theories they relate in exactly the same words used by their authors, in which case we would not feel inclined to call them genuine) may well give rise to the question how it is possible that the same thought be expressed in two (or more) different ways. If it should prove to be impossible, the task which such publications purport to perform obviously cannot even be attempted. If, on the other hand, it should be possible, this may indeed be found to be an argument in favour of the 'objectivity' of philosophical thoughts, though one may now feel tempted to ask what is the use of merely saying once more and in different words what has been said before.

In the case of Dr. Tymieniecka's book, which in its larger portion is a work of the kind mentioned, the first of these questions may be confidently answered in the affirmative, since she largely relies on the language of the writers whose theories she expounds. The book successfully performs the task that it has explicitly set itself of conveying the thoughts and reasonings of Nicolai Hartmann and Roman Ingarden on "essence and existence". This is all the more remarkable as the book is written in French—a language for whose full mastery (if I am rightly informed) the author had to rely on the assistance of others. Especially in the case of Professor Ingarden, who is an outstanding representative of the early phenomenological school in Germany and whose various subtle and penetrating analyses (partly written in Polish) are less easily wielded into a systematic survey than the neatly arranged writings of Nicolai Hartmann, Dr. Tymieniecka's representation is no small achievement. Professor Ingarden himself, with whom I had occasion to discuss the book at a recent philosophy congress in Germany, found his own theory well stated except for a few smaller inaccuracies that were apparently due to the translation. For anyone who desires to acquaint himself with the main ontological reasonings in these philosophies and who wishes to avoid the cumbersome task of distilling them from the elaborate German or even Polish originals, Dr. Tymieniecka has thus provided a useful source of information.

However, what are these ontological reasonings? The history of the concepts of essence and existence is a long one, and it enters into the book notably through the work of Hartmann, who himself drew freely from historical sources. In opposition to the traditional conception of essence and existence (as denoting two different spheres of being) Hartmann contends (in "Zur Grundlegung der Ontologie", Part II) that both can be shown to be mere "moments" of being as such (ὂν ᾗ ὄν). Within the universal context of this one and the same being, he argues, "die Existenz des einen ist stets *essentia* des anderen" (p. 134). Thus, to use one of his examples, the existence of the leaf at the branch *is* (part of) the essence of the branch; the existence of the branch at the tree *is* (part of) the essence of a tree; and so on. Hartmann calls this the relativity (or "die verschobene Identität") of *Sosein* and *Dasein*. By substituting this notion for the traditional distinction between essence and existence he tries to get rid of the problems that obsess this traditional distinction and to clear the way for his own ontology which is not concerned with the investigation of different spheres or types of being, but with the structures and possible modifications which are shared by everything that is and thus may be called structures of being as such.

It is this contention of Hartmann's with which Dr. Tymieniecka throughout her whole book is predominantly concerned. In a rather short but substantial critical conclusion she argues that it must be rejected. One reason among others for this rejection is the fact that within the frame of Hartmann's own conception the idea of *Dasein* and *Sosein* as two "moments of being" cannot be meaningfully entertained (p. 229). In particular she attacks (very rightly, I think) the way in which Hartmann arrives at this central notion of his ontology by analysing the "contenu ontique du

jugement existentiel " (Seinsgehalt der Urteile). Compared with the elaborate length of the exposition of the doctrine the critical passages are rather short and they do not lead beyond the stage of pointing out what appears to be wrong. From a concluding general evaluation of her own study, however, the reader gathers that by her criticisms the author intends to clear the ground for " trouver le point de départ absolu de la réflexion philosophique comme condition unique et nécessaire, elle-même inconditionnée, d'une saisie absolu des essences et des existences ". Much as I agree with Dr. Tymieniecka when she gains from her enquiries into the philosophies of Hartmann and Ingarden an " indication positive pour une reprise d'ensemble de la réflexion philosophique à un autre niveau " (p. 163), I am not at all certain if the ' niveau ' she appears to aim at in her criticisms is the one on which the tenets and difficulties of such ontologies can receive their most propitious treatment. Yet, this question is so intricately linked up with questions about the nature of philosophical problems in general that I feel quite unable to venture any decision on this point.

H. DELIUS

The Vatican Revolution. By GEDDES MACGREGOR. (London : Macmillan. 1958. Pp. xiv + 210. Price 21s).

The Vatican Council of 1870 decreed the infallibility of the Pope when he spoke *ex cathedra* in defining a doctrine of faith or morals. This satisfied many of the faithful who had been accustomed to regard the Pope as an infallible guide, and the wording of the decrees was so careful that Roman Catholic apologists were armed against Protestant agitators who might be so innocent as to suppose that the decrees meant what some of the faithful supposed (and may perhaps still suppose) them to mean.

Those interested in these matters have observed that, during the last century, while scientific and historical methods have been securing an increasing hold on educated minds, the Roman Catholic Church has steadily gained strength, in this country at least, while it has been proclaiming *de fide* doctrines (the Immaculate Conception, Papal Infallibility, the Bodily Assumption) impossible to justify on scientific or historical evidence. This recrudescence of dogmatism has coincided with the Roman Church's increasing influence on other Churches. Anglican theology has not latterly resisted the sway of Thomism, and the name of ' Protestant ' is not infrequently repudiated in Anglican circles. More remarkable still, the dominant school even of Protestant theology has become dogmatic and authoritarian, essentially anti-Roman only in so far as it repudiates the Roman respect for reason in relation to the *praeambula fidei*. This phenomenal decline of liberal theology deserves careful investigation, and it is unfortunate that in the present climate of philosophical opinion a trained philosopher is unlikely to be the investigator.

Dr. MacGregor's book is timely in reminding the English-speaking public of the Vatican Council, at which certain more liberal trends in the Roman Church were defeated and at which dogmatics triumphed. There is scope for a study of this event to supersede E. C. Butler's. But Dr. MacGregor can hardly be said to have provided it. His book lacks weight. He says that he writes for " general readers who are interested in the history of Roman Catholicism ", though his book is also well-documented and scholarly. But, except in the more logical arrangement of his material, he really does not move beyond Coulton's *Papal Infallibility*, published over 25 years ago. Like Coulton he delves into mediaeval history to show how great a departure from the past the Vatican decrees involved, whereas what is really needed is a clear history of the proceedings of the Council and some comment on the decrees and their aftermath. He takes for granted in " general readers " rather more knowledge of the Council than some of them may reasonably be presumed to possess, and the result is rather sketchy. He justly remarks that the tactics of dictators depend for their efficacy on widespread ignorance of facts, and it is a pity that he has not given us more facts than he has. We can be grateful to him, however, for printing the Vatican decrees in their original Latin, with Manning's translation, and for providing a good bibliography.

T. M. KNOX

Philosophical Psychology. By J. F. DONCEEL, S.J. (London : Sheed & Ward. 1957. Pp. xvi + 363. Price 21s).

A book with this title may arouse expectations among philosophers, but in this case those expectations are unlikely to be fulfilled. The book is a Thomist text-book, and it is emphatically a *text-book* and not in any way the product of original inquiry. The audience for which it is intended is clear—those in Catholic seminaries being taught the principles of Thomism at a not very profound level and with a view, perhaps, to

the practical implications of a psychology developed in accordance with those principles. For such an audience the book may fulfil its functions admirably. It is clearly written, it is systematic, and the subject-matter is divided up and dealt with in such a manner as to leave few questions to be asked about the actual exposition. But this is largely because the tone of the book is dogmatic and there is little attempt to embark on detailed argument in such a way as to provoke questions. Moreover, the ideas expressed in many sections of the book give the impression of being second-hand. This is perhaps not surprising when it is considered that the book claims to cover, at any rate in a general way, most of the field of psychology. But the impression of being second-hand is evident in what may be surprising places, e.g. in the chapter on " The Nature and Functioning of our Intellectual Knowledge ", where Thomism comes into its own. The author says that this chapter is difficult and that it may be omitted in an elementary course, but I suspect that there are misunderstandings of his own in it, e.g. on p. 228 in his account of the distinction between the *representation* and the *signification* of concepts.

We are told at the outset that Philosophical Psychology may be defined as " the science of living bodies which interprets the data of experience in the light of metaphysical principles ", and the author claims to pay more attention to the data of experience than is customary in such text-books. This may well be so, although the data of experience discussed are selective and the discussion is not very thorough. A whole chapter is devoted to the classification of character traits (for practical reasons ?), while the central provinces of experimental psychology—perception and learning—receive much briefer treatment. Another point is that in dealing with Freud the author merely denies what he finds unpalatable.

Throughout the book discussion of the empirical study of psychological functions is clearly separated from discussion of what is termed the " philosophical study " of these functions. It is maintained that the higher the function the less it is susceptible to empirical investigation, although at every level both philosophical and empirical inquiry is requisite to some extent. On p. 13, for instance, it is said, " It is impossible to understand ' learning ' completely, unless one understands what ' knowledge ' is ". There is much in this, and it may well be the case that, e.g. learning-theory in psychology, is bedevilled by a failure to analyse adequately the concepts involved. But the reasons given in this book for the impossibility of providing a purely empirical account of the higher functions are very unsatisfactory. We are told merely that at this level form, as opposed to matter, emerges, and with it the realm of spontaneity and immanent activity. And form, it is maintained, can be studied only by philosophy. There is something very mechanical in such appeals to Thomist principles and little attempt is made in the book to make clear how they provide a solution to the problem. The author has frequent recourse to analogies in explaining his points, especially analogies with the cinema. These analogies are not always helpful, e.g. in his account of the rôle of the species in the functioning of the intellect.

There are echoes of Aristotle throughout the book, but the general point of view presented is far from his (the book shows little or no direct acquaintance with Aristotle himself, even in places where reference to Aristotle would be illuminating). The result is a piece of scholasticism, in which Aristotle's logical categories become ' explanatory '. Whatever merit lies in the general point of view, however, it owes, I think, to Aristotle himself.

The philosophical parts of the book are written in what can only be called a ' philosophical vacuum '. This is especially clear in chapter 14, where there is an attempt to classify different philosophical points of view with regard to knowledge. One would not know from it that there had been any non-Thomist philosophy since Kant. Failure to accept Thomism is put down on p. 260 to the effect of will.

It is clear, however, that some of these defects would not be considered as such by the author, and when the book is considered in the light of its limited aim it may be said that the author has probably done a good job. Whether this is any recommendation in general is another matter.

D. W. HAMLYN

On the Logic of ' Better '. By SÖREN HALLDÉN. (Lund : Gleerup. 1957. Pp. 112. Price Sw. kr. 18).

This is a contribution to the small but steadily growing class of studies in symbolic logic which, like von Wright's well-known article on Deontic Logic, deal with the formal relations between normative propositions. Taking as his primitive constants B (' is better than ') and S (' is exactly as good as ') the author proceeds to develop two systems in which the variables are propositional variables, so that B and S are treated as rela-

tions between possible states of affairs, not as relations between things or kinds of thing.

At first sight it might look as though the restriction were unnecessary, because in the first system, theory A, the six initial primitive propositions are valid for a very wide range of values for p and q—they would in fact still be valid if p and q were number-variables and B and S meant " is greater than " and " equals ". But the remaining postulates involve negation (A7, for example, asserts that p B q. ≡. (p & ~ q) B (q & ~ p)), so the author's interpretation is unavoidable unless the negation sign is to be ambiguous as well as the type of the variables.

A7 has as a simple consequence that p B q. ⊃ ~ q B ~ p, and as Professor Marc Wogau has pointed out there is at first sight an air of paradox about this. One tends to feel that although eating game is better than eating kippers, not getting any game can be no worse than not getting any kippers, for what difference does it make what it is you don't get if you're just as hungry either way ? The author suggests that we have this feeling of paradox because we aren't used to attaching value to negative facts, but this seems untrue. A more likely explanation is that we tend to think a negative proposition refers simply to the positive state of affairs which exists when it is true, instead of the absence of the positive state of affairs that it rules out. If the latter is the true view there is nothing paradoxical about the theorem, which only says that the absence of a better state of affairs is more regrettable than the absence of a worse.

One rather curious feature of system A is that the formation rules allow propositions asserting a B or S relation between other B or S propositions. You are, for example, allowed to say that p's being just as good as q is better than the fact that r is better than s ; and this is defended on the equally obscure ground that reasons can be given for saying it is good (or again, bad) if it is bad if so-and-so. (There is, by the way, a misprint on p. 44. The longer formula in the fourth paragraph down should obviously be '(*R* B *S*) B ~ (*R* B *S*)'.) Theory B is perhaps the better for *not* permitting higher order value judgments.

By the method of matrices it is proved that some fourteen hypotheses are consistent with A but not deducible in it. Of these the Hypothesis of Comparability has most significance for ethics :—for any two possible states of affairs, either they are equally good or one is better than the other. The principle is presumably a necessary consequence of any theory of objective good, however badly it may fit some uses of 'good' in ordinary language, and it is adopted as an axiom of theory B.

In this second system every well-formed formula has a normal form, and there is an effective decision procedure. Suppose we begin with what the author calls a ' map ', P, a conjunction of atomic B propositions. Then this can be expanded according to a given set of rules into a number of logically equivalent conjunctions in the hope of deriving an expression which is complete in the sense that every pair of distinct variables is somewhere connected by B or S. If this is reached without an impossible formula such as p B p turning up, the negation of P cannot be a theorem, whereas if such a contradiction does appear, clearly ~P is a theorem. On the other hand, it may be impossible to derive a complete simple conjunction, and in that case the map has to be expanded in a more complicated way, as a disjunction of conjunctions. A complete expression can then always be derived, whereupon ~P is proved not to be a theorem if one of the conjunctions disjoined is logically possible and complete, and ~P is proved to be a theorem if they are all both complete and logically impossible. The proof that the procedure is adequate involves a matrix M which is simple enough in itself, though the method of applying it is pretty involved, and it turns out that the theorems are precisely those B formulae which are satisfied by M. Finally, it is proved that the semantic completeness of theory B can be established if some (unfortunately rather dubious) hypotheses are taken for granted.

It seems to me that Mr. Halldén's object is clearly not to use logical techniques to try to make new discoveries in ethics, but to make use of the peculiarities of normative statements in order to produce new logical systems which are worth studying for their own sake. If so, it would be beside the point to complain that many of the theorems proved are of little interest to the moralist. Considered as an exercise in symbolic logic the whole book is a very careful piece of work, and the metalogical discussions of theory B are a particularly admirable technical feat.

G. D. DUTHIE

Painting and Reality. By ETIENNE GILSON. (London : Routledge. 1958. Pp. xxiv + 367. Price 45s).

A work of musical art, Gilson says, is insubstantial : it is poised precariously between being and non-being. A painting, on the other hand, is a material object : a new painting is a new being, an enrichment of nature ; and the painter who makes it is the privileged continuer of God's and nature's creativity. The still life, the expression of the simple ' act ' of being, is true to the genius of painting as the expression of movement and ' becoming ' is to that of music. Paintings are quite unique, individual entities, and admit of no ' reproduction ' in any strict sense. To reproduce or even to restore a painting is to make a *new* work of art, either worse or better than the original, but emphatically a different one.

Using Aristotelian and Augustinian concepts, Gilson attempts to develop an ' ontology of painting '. To give form to matter (for instance, to dispose pigment on canvas) is identical with the creation of new being. Different matters have different ' formal vocations ' ; that is, they receive one sort of form and fight against another. Gilson's emphasis on creation and newness carries him completely away from every imitation theory of art. The true painter (true, that is, to the ontological nature of his art) is he who refuses to make his paintings mere illustrations of events, of objects, ideas or anything else. Beauty is not to be discovered and copied, but to be *made* by the painter. A painting is the working out of some ' germinal form '—an arresting plastic design in embryo, which in the final painting will evoke a unique pleasure in the perceiver. To realise the germinal form is to complete the painting ; and this, incidentally, may be a very different thing from ' finishing ' it. (A sketch may fully and ' completely ' realise the form, while its corresponding ' finished ' painting may destroy, not perfect it.) The recent history of art is to Gilson above all the gradual liberating discovery of what this view of painting implies—namely, that ' subject ' is totally dispensable. Abstract painters like Mondrian have at last dared to carry through the revolution and to produce not ' images ' but ' things '.

Such an outline of Gilson's thesis, however, misses altogether what to this reviewer is the most rewarding aspect of the whole book—the wealth of quotation from the journals, correspondence and manifestoes of working painters and the detailed discussion of their conceptions of art. If many aestheticians can be criticised for insufficiently studying the artists themselves, Gilson is not one of them. One hundred and seventeen illustrations on half-tone plates ensure further that visual experience is not surrendered to linguistic.

Equally commendable are Gilson's elucidations of what distinctively aesthetic contemplation of paintings is like—his sifting away of art-historical and literary interests which so often even in serious art-criticism deflect attention from the colours and shapes on actual canvases. Yet his zeal here produces some over-caustic comments on the limitations of reproductions, and he does not adequately justify his metaphysical statement that it is " inconsistent with their very nature that paintings should be duplicated "—i.e., no matter how perfect reproduction-processes in fact (or in theory) might become.

A few more important criticisms must be noted, however briefly. (1) Gilson invokes the language of ' being ' not only to differentiate painting from music (to the ontological advantage of painting) ; but to discriminate also between good and bad paintings. Only the good painting is a " fully constituted being " : deficiency in beauty is deficiency in being. On the first of these points : one may ask whether his claim that music has a precarious, " poverty-stricken mode of subsistence " points to a genuine deficiency in music any more than silence is a deficiency of painting. On the second ; while Gilson's metaphysical vocubulary is splendidly able to reawaken wonderment at the mysteries of the creative act, it does not seem at all helpful in telling us in what ways the good painting's ' being ' differs from the failed-being of the bad.

(2) Gilson's ontology aids and abets a too-simple interpretation and evaluation of recent art history in terms of the elimination of subject and the triumph of the paintings-as-things viewpoint. At one point he concedes that a van Eyck could be at once both representational *and* abstract. The same pigments depict Arnolfini's hat and express purely design-ful, painterly forms. If this is so, then it is less easy to acclaim the road to Mondrian as the slow but momentous and final " purification " of painting from all representational elements. For why should we not place supreme value, not on contemporary abstracts, but on paintings (say, the van Eycks) where representational and formal elements perfectly coincide (like two musical subjects which are individually excellent tunes *and* playable simultaneously) ? Perhaps we *shall* prefer Mondrian ; but if so, Gilson's ontological analysis will not really have told us why. Lastly, Mondrian's compositions of straight lines, right-angles, etc., are not in every sense *subjectless* paintings. " Impressed by the vastness of nature ", he once wrote, " I was trying to express its expansion, rest and unity "—highly general features of the world, certainly ; but features nonetheless. One can be a non-representational painter and yet express human responses to the world beyond one's canvas.

RONALD W. HEPBURN

Modes of Being. By PAUL WEISS. (Carbondale : Southern Illinois University Press. 1958. Pp. xi + 617. Price $10.00).

To avoid intractable paradoxes, especially in the field of moral philosophy, Paul Weiss finds himself driven to posit no less than four irreducible modes of being—Actuality, Ideality, Existence and God. These are the fundamental concepts out of which his metaphysical system, expounded in this lengthy volume, is developed. Actualities are " finite beings in space and time ". The Ideal is " the Good when . . . freed from an exclusive reference to realizing Actualities ". Existence is " a restless force at once ingredient in and overflowing the borders of Actualities, connecting each with every other and coming to a focus in the Ideal ". And God is " that being who, among other things, makes a unity of what otherwise would be a detached set of occurrences. He sees to it that the Ideal is realized ". He is the being " who alone can make [man] adequate to the demands of the Ideal ". The modes are metaphysically quite distinct, yet each is also a " component " in all the others.

Professor Weiss expounds each of the modes in turn : the nature of Actualities, a discussion that includes problems of causality, the ' self ' and its immortality, perception, memory, thinking, the nature of philosophy. " Ideality " discusses themes such as ' the Good ', ' possibility ', ethical and political problems, rights, laws, punishments, education. The chapter on Existence treats of space, time, inferences and processes, facts, myth, history ; and the chapter on God includes a variety of ' approaches ' and ' testimonies ' to, and ' proofs ' of God, God's manner of awareness, his relation to the other modes, the ' independence ' of scientific and religious claims.

(i) I find this book almost impossible to assess ; not, I trust, through any stubborn bias against metaphysics wrought systematically in the grand manner—for after analysis there may well come a measure of cautious synthesis—but because Weiss's metaphysics does not seem to me to hold fast to and apply the gains in rigour and linguistic self-consciousness that the decades of analysis have yielded. If any metaphysics can be acceptable today, it is the metaphysics which has, as it were, come out of the other side of analysis, and keeps the clearest memory of its exorcism of the muddled, its clarifications of the ambiguous, its concern with linguistic detail and its refusal to pontificate. One has to contrast Weiss's happy-go-lucky introduction and use of multiply-ambiguous words like ' self ', ' mind ', ' immortality ', and a discussion of freedom (pp. 44 ff. ; 97 ff.) which asserts an exceedingly bold speculative hypothesis without serious attempt to relate it to the current debates on the subject or to make his own use of the key terms at all precise. The latter failure blights his arguments over human action, responsibility, causality and the nature of God. This dogmatic and gnomic independence certainly makes for a bold assurance and forthrightness of style, but at the cost not only of imprecision but also of tantalizing, sustained obscurity. At its worst, as (I suspect) in the sections on moral and political philosophy, Weiss's quasi-paradoxical and high-solemn manner can result in a grandiloquent dressing-up of the relatively obvious : " 2.27—It is good for the Good to be fulfilled " ; " 2.68—A man ought to acquire the habit of functioning as a man should ". Weiss flies at such a high altitude of generality and abstraction that the topography of most of the real problems is lost below the clouds.

(ii) Metaphorical language cannot be withheld from the metaphysician. To deny him it would be to silence him altogether, and for no good reason. But one can and must demand that he be as austere and unfanciful as possible in the metaphors he does allow himself. This cannot be said of the following (fairly representative) utterances about Existence :

> Existence is sheer vitality, forever passing from one position or guise into another.
> Existence has its own nature, its own rhythm, its own way of working out its destiny.
> [Existence] is God expressing himself, fulgurating perpetually. . . .

It is not escaping my notice that ' Existence ', as Weiss uses it, is a technical term ; yet nowhere in the book does he provide a clear and systematic account of the respects in which his use of the word follows and departs from that of everyday language.

(iii) Not only does *Modes of Being* over-luxuriate in metaphor, but there is a sense throughout that one is in the presence of a metaphysical *mythology*, in which the main abstractions (notably the Modes themselves) are half-personified and their ontological roles dramatized. Thus :

> Actualities strive to be completely adjusted to all there is ; the Ideal strives to encompass everything ; Existence is engaged in a perpetual effort to separate itself off from all else ; God strives to make unity present everywhere.

Dramatizations of this kind could, of course, be innocent, even helpful, provided there were sufficient ' cashing ' of the mythological apparatus elsewhere in the book. But there is not.

(iv) The next comment sounds a strange one, considering the size of *Modes of Being*, but it is simply that the book needs to be a good deal longer still, if it is to be anything like thoroughly done, as Weiss intends it to be. Granted the comprehensive speculative enterprise, it will not do (*a*) to ignore detailed and scholarly recent studies of such topics as science-religion relations, treated here in two paragraphs (compare Mascall's painstaking, three-hundred-page long *Christian Theology and Natural Science*); (*b*) to set aside so lightly the objections of analytic philosophers to taking 'good' and other normative words as *cosmically* significant notions. Again, many of Weiss's comments on classical philosophers are too abrupt and epigrammatic for intelligibility; but are obviously often shrewd and searching and well-worth articulating more fully.

(v) The dust-cover tells us that thirty years' hard thinking lies behind *Modes of Being*. Reviewers and readers ought for that reason alone to give the book a respectful study. But I have also the feeling that a good many of the above criticisms and complaints would be rendered unnecessary were one to study and discourse *at length* with the author, and work oneself gradually into his personal vocabulary and processes of reasoning. The over-all impression is like missing the greater part of a worth-while radio-programme through technical faults in the transmission.

RONALD W. HEPBURN

History and Eschatology. By RUDOLF BULTMANN. (Edinburgh: Nelson. 1957. Pp. ix + 171. Price 15s).

If Dr. Bultmann's Gifford Lectures had only appeared some years ago, we should have been spared a vast quantity of commentary and criticism. It is indeed surprising just how much is made to appear irrelevant by this lucid exposition. Many writers on Bultmann, for example, have stressed Bultmann's dependence on Heidegger, making this appear more than just a matter of historical derivation. In this light it seemed that one could not begin to comprehend Bultmann unless one had first elucidated Heidegger's central concepts. Yet here Bultmann succeeds in explaining himself with only a passing reference to Heidegger. The gain in lucidity of Bultmann over his expositors is perhaps not unconnected with this.

The philosopher with whom Bultmann claims an affinity in these lectures is R. G. Collingwood. And it ought to be said at the outset that the shadow of *The Idea of History* falls across this book. As a philosophical commentator on the history of the philosophy of history Bultmann is far inferior to Collingwood. The whole interest of Bultmann's lectures lies in the way in which his general philosophical and theological position is illuminated. Unfortunately the result is that what seemed exciting and stimulating but obscure is now made to appear clear, pedestrian and uninteresting. Bultmann's thesis is as follows.

There is no eternal plan or pattern exemplified in history which gives significance to history. Those writers who offered such plans, whether in terms of a humanist belief in progress or the Hegelian or Marxist dialectic are merely trading in secularised versions of the biblical doctrines of providence, redemption and the end of the world. We may as a result of seeing this fall into the trap of supposing life and history to be meaningless and human purposes and projects the mere causally determined outcome of earlier situations. This is at once the insight and the error of naturalism: an insight because causal explanations have a rôle in history; an error because they omit the crucial fact of human responsibility. Idealism exalts human freedom too far, and does not allow for the truth in naturalism. Christianity, however, presents man as one who has always the possibility of freedom but has to grasp it. The fact that Christianity presents man in this light makes it a more adequate instrument of human self-comprehension than any other "Weltanschauung" (Bultmann's word). It is not only, of course, that Christianity pictures man thus; but also that believing in Christianity gives man the power to grasp his freedom.

This outline of Bultmann's thesis is certainly inadequate. But at least it is plain that many of Bultmann's theological critics have understandably misunderstood him. For they have supposed that he was defending something that was at least recognisably a version of Christian belief. But Bultmann's view in these lectures is one that entails three departures from such belief too radical to be treated as a mere revision. First, he jettisons any version of Christianity as a belief whose truth depends on whether certain events happened; his sole criterion of religious truth appears to be the extent to which a belief gives us an understanding of what he calls "the historicity of man", that is of individual men as both a part of the historical process and yet responsible beings. Secondly, the kind of importance and truth which Christianity possesses can be possessed by other beliefs. Whether Christianity is the most adequate of such beliefs or not depends on the application of Bultmann's criterion. Thirdly, not only the factual,

historical content of the creeds but also their metaphysical assertions are—it is not always clear which—either just odd ways of talking about human self-understanding or else an unnecessary and distorting addition to the picture of human nature.

The resemblance between Bultmann's view of Christianity and that of Professor R. B. Braithwaite has been noted by more than one critic. As with Braithwaite so with Bultmann it is clear that what is being offered is not an analysis of what religious beliefs have actually meant to those who have held them in the past, but that a new meaning is being assigned to them. The old terms are being put to what are in fact fresh uses. This in itself is a perfectly legitimate thing to do. What would throw doubt on the project would be if religious expressions, understood in their new sense, appeared trivial or false. Now part of what Christianity is made to say by Bultmann does appear to be trivial in the sense that nothing is added to what we knew anyway. For to say that man is a being capable of responsibility is not to say very much. Furthermore, to say that Christian faith is the power to grasp the gift of freedom suggests that the man without this faith lacks this power. This I can only take to mean that responsible decision is somehow more within the grasp of Christians than it is of non-Christians. And this is palpably false.

ALASDAIR MACINTYRE

Religious Language. By IAN T. RAMSEY. (London : SCM Press. 1957. Pp. 191. Price 18s).

Professor Ramsey herein attempts to describe the ' logic ' of religious language and in particular its ' empirical placing '. He analyses the religious situation as one which involves a *disclosure* demanding *commitment*, and gives illustrations from everyday parallels. Thus first he tells stories of circumstances where one may say that the situation ' comes alive ', ' the light dawns ', ' the penny drops ', etc. (pp. 19 ff.). Secondly he illustrates the use of phrases like '. . . grips us ', ' . . . dominates us ', ' . . . fall in love ', etc.—where the disclosure produces with it a commitment (pp. 36 ff.). If, then, religious language has to fit situations which, though perceptual, are oddly more than perceptual, it will be object language qualified in an odd way (p 38), e.g. it will mix universes of discourse and will contain peculiar tautologies. The latter Professor Ramsey illustrates from moral situations where, e.g., it is said ' I chose to do X because I chose to do X ', or '. . . because I'm I ' (p. 40). ' God ' as a key-word becomes the subject of significant tautologies like ' God is Love ' (pp. 46-7). In Chapter II, Professor Ramsey goes on to discuss examples of traditional characterisations of God : (i) the attributes of negative theology (e.g., ' immutable ' is used to evoke an immediate experience accruing upon contemplation of the mutability of things and to place ' God ' outside all mutable language (p. 53)) ; (ii) such attributes as ' Unity ' and ' Perfection ', which indicate that the word ' God ' ' completes ' and ' presides over ' the rest of language (p. 60) ; (iii) certain important phrases such as ' First Cause ' and ' Infinitely Wise ', where we have a model and a qualifier—thus ' First Cause ' is understood by reference to a situation evoked by developing the ' Cause ' model in the way suggested by ' First ', and the word ' God ' is hereby placed ' first ' at the head of all causal stories (p. 64). In Chapters III and IV the language of the Bible and of Christian doctrine are examined. Five biblical examples are considered : naming God ; prophecy and apocalyptic ; virgin birth ; resurrection and ascension ; Son of Man ; and miracles. Regarding the last : " What a miracle claims about the universe is, then, that on some occasion the universe ' comes alive ' in a personal sort of way : in this way ' miracle ' and ' free will ' are logical parallels ; each claims a ' personal ' situation which *needs more* than scientific language to talk about it " (pp. 146-7). Among doctrinal examples considered are the concepts of *Trinity* and *hypostatic unity*. About the latter : to know what it is in fact, a disclosure must be evoked by and of Christ; to know what it is linguistically, one must see that " to deal with the kind of disclosure situation which is at the basis of Christian revelation, human language must be qualified ' hypostatically ' " (pp. 167-8). Professor Ramsey also touches on relational words in Christian doctrine (' redemption ', ' justification ', etc.) and object words (' episcopacy ', ' church ', etc.), and concludes with a recommendation of logical empiricism as useful to theologians.

Comment. (i) Professor Ramsey claims to characterise religious language, but in fact talks only about theistic language (mainly Christian at that). What is the Buddhist to reply when told that " religious language centres on ' God ' " (p. 46) ? (ii) Similarly it is hard to know whether the account of religious situations in terms of pennies dropping, etc., would adequately describe all the varieties of religious experience. (iii) I feel unhappy about the uses here of ' logical ' : sometimes it seems that the distinctions between falsity and logical impossibility and between statements and (philosophical) meta-statements are blurred. Thus : God's name ever remains mysterious, of *logical*

necessity (p. 111); " ' Messiah ' had to become ' crucified and risen Messiah '—a logical impropriety indeed " (p. 143); and consider the quotation about hypostatic unity given above. (iv) Connectedly, the account of ' God ' as ' completing ' and ' presiding over ' all causal explanations seems in effect a version, clad in the formal mode, of the Cosmological Argument. It may be that the apparatus of meta-talk hinders the author from presenting important metaphysical claims. Also, exegesis seems sometimes similarly blurred: e.g. " The ' so ' of ' shall so come ' has the *logical point* of emphasising the coming, i.e. shall come, . . . come, . . . come, i.e. comes, and comes continually " (p. 136). Doubtless the philosopher of religion will be doing a queer sort of exegesis, but not where straight exegesis is enough. (v) On Professor Ramsey's general account, religious statements will be unfalsifiable, in so far as the fact that, for someone, the penny has not dropped is no guarantee that it will not. In this respect the ' empirical anchorage ' is peculiar. Perhaps, however, this unfalsifiability is native to religion; yet it would be fruitful to relate religious concepts more closely to religious activities and rituals and to consider what would count for or against one set of doctrines rather than another. Moreover, anyone can use the dropping penny: what of the Mahayana Buddhist who says that the Buddhas are as numerous as the sands of the Ganges? Can he not keep reading us the *Lotus Sutra*, waiting for the light to dawn? (vi) Professor Ramsey remarks " Here then is a method by which . . . at every point we plot our theological phrases with reference to a characteristically religious situation " (p. 89); and we can heartily commend this desire to illuminate religious concepts in their habitat. It is to be hoped that this attempt to depict religious language will stimulate further investigations, both by Professor Ramsey and by others. (vii) The book, as others in the series, is most handsomely produced.

R. N. SMART

Uncertainty and Business Decisions. Second edition, revised and enlarged. Edited by C. F. CARTER, G. P. MEREDITH and G. L. S. SHACKLE. (Liverpool: Liverpool University Press. 1957. Pp. x + 158. Price 22s 6d).

" Mathematics ", as Professor Shackle puts it, " has shown in probability theory how to derive knowledge concerning aggregates of future events from aggregates of past events, but this technique is irrelevant to personally *unique* and crucial occasions of decision by an individual " (p. 105). Professor Shackle's theory of expectations (*Expectations in Economics*, 2nd ed., London 1952) was devised to supply a model of rational expectations in such circumstances for the field of economics. The present collection of essays is mainly concerned with this theory.

This is the 2nd edition of this book, the first part of which is based on a discussion of expectation theory held at the British Association meetings in 1953. Some interesting additional chapters have been added to the 1st edition, notably a review of Professor Shackle's book by Mr. Watkins. However, it is a pity that the editors did not avail themselves of this opportunity to re-arrange some of the material. An excellent summary of the original discussion by Professor Meredith appears in the middle of the book, but could more profitably have been used as an introduction, particularly for the non-economist. Even for the economist who is not a specialist in this field, Professor Williams' chapter on the contribution of economists to expectation theory is heavy going. It presents an excellent summary for purposes of discussion among the specialists, but a longer and more detailed treatment would be expected here. Professor Carter's two acute contributions, also, would have benefited from integration, since the later one is mainly an extension of the earlier.

Nevertheless, the contributions, on the whole, are lively and stimulating. Professor Shackle himself presents a succinct sketch of his theory and the basic conclusions are discussed, on a somewhat more technical level, by Professor Williams in his second contribution. Professors Gallie and O'Connor put the point that philosophy has much the same gap in the theory of expectations involving unique situations, and they advocate the adoption of the Shackle theory into a wider setting. Professor Meredith argues that the Shackle theory is equally applicable to psychological problems, showing that the Shackle approach easily explains how a tom-cat reconciles dilemmas encountered in nocturnal love-making. He allows, of course, that " the chief difference between the case of the tom-cat and the case of the enterpriser deciding upon a business venture lies in the sophistication of estimating likelihood " of success (p. 39). Robinson Crusoe's days as the hero of economics text-books are clearly limited. For a stimulating and easily understood introduction to the Shackle theory this essay provides a sound basis. Unfortunately, the same cannot be said of Dr. Good's mathematical contribution; to the non-mathematician, at any rate, this appears as a series of unexplained statements,

far too abstruse to be appreciated. It is related of a minister that he once told his congregation : " Here, my friends, we have a very complicated text ; let us look it boldly in the face and pass on ". Such clerical advice is admirably applicable here.

The weightiest criticisms to any purely subjective economic theory, and particularly one of expectations, are presented by the difficulties of empirical testing. Mr. Roy discusses at length these problems and is inevitably drawn to the conclusion that even the *character* of such investigations can only be dimly perceived. The problem of the *statistical* testing of theories of expectation is deliberately avoided. Even Professor Carter is forced to admit that " the power of the human mind to devise and elaborate theories on such a subject far exceeds our power to test them against the facts " (p. 142). The philosopher and the psychologist must not, however, on this account criticise economics for its possible divorce from reality. Economists enthusiastic about expectations may sneer at what Professor Williams calls " mechanical " models of economic change which do not explicitly introduce expectations, although these can be implicitly introduced. Nevertheless, in the great majority of cases such models can be subjected to statistical testing and on this account must be regarded as superior. The advent of an economic theory of expectations does not justify their abandonment, which is at least implicit in this book.

Economists, as Professor Williams points out, are notorious for their " lack of knowledge of psychology and sociology (and difficulty in working with the ' queer critters ' who practise these cults ?) " (p. 61). The essays in this book, however, mark a welcome break in this tradition. The economist is consoled to know that he is not alone in his peculiar problems, and perhaps even proud to feel that his science can contribute to other fields of knowledge. Probably he will gain most from the book : nevertheless, the other ' queer critters ' can also very profitably study it.

A. Ll. Wright

The Definition of Law. By Hermann Kantorowicz. (London : C.U.P. 1958. Pp. xxiv + 113. Price 15s).

In 1938 was launched *The Oxford History of Legal Science*, to be edited by Dr. Kantorowicz. Unhappily the project foundered on the outbreak of war, and sank with the death of its editor in the following year. All that has survived is his own essay, *The Definition of Law*, which was to have prefaced the whole work. It is now published on its own, under the editorship of Professor A. H. Campbell, and introduced by the Master of University College, Oxford.

In it Kantorowicz develops his normative view of law, as a system of prescriptive rules, in contrast with the descriptive view widely current in the U.S.A., and indeed erroneously fathered on Kantorowicz himself, through a widespread misunderstanding of his contrast between formal (e.g. statute) law and free law which, by interpretation, application of precedent, and judicial decision fills the gaps in the structure of formal law. An important aspect of the " free law " thesis is its insistence on the point that the decision, where questions of law arise, cannot be deduction from formal law alone —which is not at all the same thing as saying that a judge is free to settle a case as he thinks right, or to be governed by the state of his liver, or that a body of law is a set of generalisations about the behaviour of judges.

The central question being " What is Law ? ", Kantorowicz starts by eschewing two procedures which have been followed in the past and have led nowhere : one, to treat the question as if it could be answered by lexicographical enquiries " What have people meant by ' law ' (' jus ', ' droit ', etc.) ? " ; the other, to regard it as a summons to dig through the outer layers and to disclose the real essence of law. Lumping these two procedures briefly and, one would think, somewhat uncomfortably together under the single heading of " verbal realism ", he rejects them for what he thinks the right method, that of " conceptual pragmatism ". The question should be posed in the form " What *ought* to be understood by law ? " (Incidentally, the wording both of this question and of the title of the book suggests that Kantorowicz had not altogether succeeded in emancipating himself from the procedural confusions of his predecessors.) And the value of a proffered answer is to be judged by its *usefulness* : a definition, being a proposal, invites the question, not " Is it true ? ", but " Will it help ? ", although the question whether it *will* help is itself a question of truth, to be determined partly by whether things have the qualities and relations presupposed by the definition, and partly by whether the classification of things (as opposed to names), on which the definition depends, is itself helpful or not. The question, for example, whether so-called public international law is law or not is a question of facing the consequences (practical as well as theoretical) of refusing to classify it with domestic laws, many of the desirable features of which it admittedly lacks ; to refuse it the name is actually to weaken its chances of acquiring those features.

A definition of law is one of *rules*, but is to be justified on a basis of *facts*, the facts of sociology, anthropology and history. Starting with a deliberately broad and vague definition, " Law is a body of rules aiming at the prevention or the orderly settlement of conflicts ", which omits many of the restrictions usually laid down in text books, such as positiveness, enforceability, State origin and binding character, Kantorowicz slightly narrows it down to his own proposals : that law is a *body of rules prescribing external conduct and considered justiciable*. Rules (as he is using the term) prescribe what what *ought* to be done, laying on a man the primary duty of conducting himself in a certain way, and the secondary duty, if he fails in the primary, of submitting to sanctions. While a *command* (Kantorowicz proposes) is a rule the validity of which depends on its source, a *precept* is a rule the validity of which depends on the nature of its contents, which commits us to the acceptance of the ideal of a supreme value, and to the view that every precept rests on the basic duty to actualise the supreme value or values. *Dogmas* are rules which are logically implied (in a highly informal sense of ' logically ') by other rules the validity of which is already accepted ; by mutual adaptation they come to form a body of rules, the authority of which is their own coherence. To be distinguished from these three grounds of the validity of rules is their function, which is prescriptive (to which other apparent functions, e.g. the prohibitive and the permissive, are to be reduced).

Kantorowicz insists on distinguishing legal and moral rules, even in the imagined case where they would be coextensive, but he seems to be confused and to be misled partly by his use of false analogies, and partly by his assumption that " ethical systems prescribe internal conduct consisting of volitions ". While the concepts " moral rule " and " legal rule " are clearly distinguishable, there is no logical reason why a given prescription should not be both moral and legal ; and to a large extent the rules of a community are likely to be both, if the legal system is not to be wholly arbitrary. To say that a rule can be both moral and legal is not the same as to say that it is desirable that it should be, or that all sin should be made crime (cf. the Wolfenden recommendations on homosexuality). The distinction between the concepts is all that Kantorowicz needs for his point that legal rules are justiciable but moral rules are not. His insistence that no judgement on conduct that disregards the agent's motive can be a moral judgement appears to be an unexamined Kantian hangover.

Kantorowicz objects to characterising law in the Kelsen manner by the mark of *enforceability*, but his arguments against it (with the possible exception of the case of *leges imperfectae*) all turn on his confusion between ' enforceable ' and ' enforced '. Attempts to analyse law as the rationalisation of social custom lead him to the importance of the judicial organ, as a third party distinct from the parties to the dispute. Rules of law are those " rules which are considered fit to be applied by judicial organs . . . with some more or less ' definite ' procedure " for their application. This would permit the inclusion within the scope of law of many rules, e.g. those of games, which would be excluded by other formulations, but which Kantorowicz sees no reason to deny to be rules of law. It may be of more than parochial interest to quote his opinion that " the twenty-one authentic ' definitions ' which precede the ' Rules of the Game of Golf as approved by the Royal and Ancient Golf Club of St. Andrews, September 1908 ' must arouse the envy of every jurist attempting to interpret European, to say nothing of American, statutes ".

Kantorowicz's final formulation that law should be called " a body of social rules . . . etc. " serves to heighten one's regret that his thinking about ethics was so narrow and superficial, for almost everything that he writes in his book after his declaration of the gulf between moral and legal rules serves to show that he was heading in the direction of a quite different view. That so keen a controversialist should not have survived to participate himself in the discussions which his fruitful, learned and highly readable essay could be expected, and perhaps was designed, to provoke is indeed a sad loss to the philosophy of law.

A. D. WOOZLEY